

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC., a Delaware corporation,

Plaintiff/Counter-Defendant,

V.

ILLUMINA, INC., a Delaware corporation,

Defendant/Counter-Plaintiff.

Civil Action No.: 04-901 JJF

**ILLUMINA'S MOTION FOR
JUDGMENT AS A MATTER OF LAW PURSUANT TO RULE 50(a)**

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Dated: March 12, 2007

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INTRODUCTION

In this case, Affymetrix alleges Illumina directly and indirectly infringes the patents-in-suit, and seeks damages for lost profits and/or a reasonable royalty. Now, at the close of the evidence, and before submission of the case to the jury, as at the conclusion of Affymetrix's case in chief, no reasonable jury could find that Illumina or its customers infringed any of the claims of the patents-in-suit¹, or that if they did, Affymetrix is entitled to any lost profits or the 12% royalty it seeks.

Affymetrix failed to present sufficient evidence to show that Illumina directly infringes any of the asserted claims of the patents-in-suit, or that Illumina's customers use Illumina products in an infringing manner. Additionally, Affymetrix did not meet its burden to prove that Illumina induced infringement by others because Affymetrix failed to prove that Illumina acted with the required specific intent to induce infringement. Affymetrix also did not prove that Illumina contributorily infringed any of the asserted claims because it did not present any evidence that Illumina's products do not have a substantial noninfringing use.²

Even if this Court were to conclude that Affymetrix had made a *prima facie* case sufficient to proceed to the jury, Affymetrix has failed to prove its entitlement to any lost profits. In particular, it has failed to prove with the required degree of specificity or certainty any sales it would have made but for infringement by Illumina, that it had sufficient capacity to make any such sales, or that an award of lost profits would not be speculative. Accordingly, Affymetrix has failed to make a *prima facie* case for lost profits, as a matter of law, and that issue should not

¹ Affymetrix asserts claims 1, 5, and 9 of U.S. Patent No. 5,795,716 ("the '716 patent"), claims 2 and 9 of U.S. Patent No. 6,35,432 ("the '432 patent"), claims 14, 15, and 35 of U.S. Patent No. 6,646,243 ("the '243 patent"), claims 36 and 41 of U.S. Patent No. 6,399,365 ("the '365 patent"), and claims 1 and 2 of U.S. Patent No. 5,545,531 ("the '531 patent").

² Affymetrix apparently recognizes its lack of evidence of contributory infringement as its revised proposed jury verdict form does not include a request for a jury finding on the issue of contributory infringement.

be submitted to the jury. Furthermore, Affymetrix, to the extent it established a *prima facie* showing of entitlement to an award of a reasonable royalty, has failed to establish that it is entitled to its proposed 12% royalty rate under controlling law.

ARGUMENT

A. Legal Standard For Judgment As A Matter of Law

Judgment as a matter of law should be granted when "there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue." FED. R. CIV. P. 50(a). The sufficiency of the evidence is determined by "the record as presented to the jury." *Advanced Medical Optics, Inc. v. Alcon Laboratories, Inc.*, No. Civ. A. 03-1095-KAJ, 2005 WL 3454283, at *2 (D. Del. Dec. 16, 2005) (citing *Lightning Lube, Inc. v. Witco Corp.*, 4 F.3d 1153, 1199 (3d Cir. 1993)). The proper analysis is "'whether the record contains the minimum quantum of evidence from which a jury might reasonably afford relief.'" *Espeed, Inc. v. Brokertec USA, L.L.C.*, 404 F.Supp.2d 575, 578 (D. Del 2005) (quoting *Keoth v. Truck Stops Corp. of America*, 909 F.2d 743, 745 (3d Cir. 1990)).

B. Affymetrix Did Not Produce Evidence To Prove That Illumina Directly Infringes The Patents-In-Suit.

At the close of evidence in this case, there is no legally sufficient evidence by which a reasonable jury could conclude that Illumina and/or its customers directly infringe the patents-in-suit.

First, Affymetrix has not presented evidence sufficient to meet its burden to show that Illumina directly infringes the apparatus claims of the patents-in-suit.³ For Illumina's products to literally infringe the patents-in-suit, Affymetrix must show that Illumina's products include each

³ For example, Affymetrix asserts apparatus claims 2 and 9 of the '432 patent, claims 14 and 15 of the '243 patent, and claim 36 of the '365 patent.

and every element of each asserted claim. To show that Illumina's products infringe under the doctrine of equivalents, Affymetrix must show that the difference between each claim element and a corresponding aspect of Illumina's accused product is insubstantial. This can be accomplished by showing that the accused product performs substantially the same function, in substantially the same way, to achieve substantially the same result as the element in the claimed invention.

Affymetrix failed to meet its burden under either standard. For example, there is insufficient evidence to establish that Illumina's accused products contain each element of each asserted claim. Further, Affymetrix failed to prove that the accused "products" under the '716 patent—the only patent for which the doctrine of equivalents is still relevant—perform substantially the same function, in substantially the same way, to achieve substantially the same result as the elements in the claimed invention.⁴ Therefore, Illumina is entitled to judgment as a matter of law because its accused products do not directly infringe the patents-in-suit.

Second, Affymetrix has not presented sufficient evidence to show that Illumina (or its customers) directly infringe any of the method claims of the patents-in-suit.⁵ Method claims can only be infringed by those who practice the patented method. *Harris Corp. v. Ericsson Inc.*, 417

⁴ Though not at issue in this jury trial, to the extent the jury finds infringement of the '716 patent under the doctrine of equivalents, Illumina believes that it will be able to prove (at a later time when the Court takes up this issue) that prosecution history estoppel bars such a finding as a matter of law.

⁵ Affymetrix asserts the following method claims: claim 35 of the '243 patent, claim 41 of the '365 patent and claims 1 and 2 of the '531 patent. Additionally, claims 1, 5, and 9 of the '716 patent, and claims 14 and 15 of the '243 patent require use to be infringed. For example, claim 1 of the '716 patent requires "[a] computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising: computer code that *receives a plurality of signals* corresponding to probe intensities," and that "*performs a comparison* of said plurality of probe intensities to each other." Similarly, claim 2 of the '716 patent, on which claim 9 depends, requires "[a] computer program product that identifies an unknown base in a sample nucleic acid sequence, comprising: *computer code that receives a plurality of signals* corresponding to probe intensities," and that "*calculates a ratio* of a higher probe intensity to a lower probe intensity." Additionally, claims 14 and 15 of the '243 patent require use of the apparatus after an assay has been performed on a sample.

F.3d 1241, 1256 (Fed. Cir. 2005) (reversing lower court's denial of motion for judgment as a matter of law of noninfringement of method of using claim when there was no evidence of direct infringement "by one who uses the system," rather than by "one who makes or sells the components of the system."). To establish liability for the asserted method and use claims, Affymetrix was required to prove that Illumina or its customers use Illumina products in an infringing manner. Affymetrix, however, did not present any evidence that shows how Illumina or its customers actually *use* Illumina products. Therefore, Illumina is entitled to judgment as a matter of law that it does not infringe the method or use claims asserted in this case.

C. Affymetrix Did Not Produce Evidence To Prove That Illumina Indirectly Infringes The Patents-In-Suit.

At the close of the evidence in this case, no legally sufficient evidence has been introduced by which a reasonable jury could conclude Illumina indirectly infringes the patents-in-suit. As discussed above, Affymetrix offered no evidence regarding how Illumina's customers use its products, if at all.⁶ On this basis alone, Affymetrix failed to meet its burden to show Illumina indirectly infringes the patents-in-suit. *DSU Medical Corp. v. JMS Co. LTD.*, 471 F.3d 1293, 1303 (Fed. Cir. 2006) ("The patentee always has the burden to show direct infringement for each instance of indirect infringement."). As a further basis to find as a matter of law that Illumina does not indirectly infringe, Affymetrix has not shown that Illumina had the required specific intent to induce infringement, or that its products are not capable of substantial infringing uses. *Id.* at 1306.

⁶ To the extent that such evidence of customer use was presented by Affymetrix's experts, Dr. Struhl and Dr. Guerra, these opinions and evidence were not disclosed in the expert reports of these experts, and thus a new trial is warranted due to the violation of Federal Rule of Civil Procedure 26(a)(2).

1. Affymetrix did not introduce evidence to prove that Illumina specifically intended to induce infringement of the patents-in-suit.

There is no legally sufficient evidence to prove that Illumina induced infringement of the patents-in-suit. Induced infringement, *inter alia*, requires evidence that the alleged infringer "knowingly induced infringement and possessed specific intent to encourage another's infringement." *DSU Medical Corp.*, 471 F.3d at 1306. To prove liability for inducing infringement, Affymetrix must produce evidence of Illumina's "culpable conduct, directed to encouraging another's infringement, not merely that the inducer had knowledge of the direct infringer's activities." *Id.* A mere description in an instruction manual of how the product is to be used is insufficient as a matter of law to support a finding of induced infringement. *E-Pass Tech., Inc. v. 3COM Corp.*, 473 F.3d 1213, 1222-23 (Fed. Cir. 2007) (affirming summary judgment of noninfringement when plaintiff failed to introduce testimony from a single customer as to if and how they followed instructions in a manual).

Affymetrix, however, has not introduced any legally sufficient evidence that Illumina acted with a specific intent to induce infringement. Indeed, Affymetrix offered no evidence that Illumina believed its products were infringing. *See DSU Medical Corp.*, 471 F.3d at 1307 (finding no specific intent to induce infringement when there was evidence defendant did not believe it was infringing). Accordingly, Affymetrix's claim that Illumina induced infringement must fail as a matter of law.

2. Affymetrix did not introduce evidence that Illumina contributed to the infringement of the patents-in-suit.

To prove an underlying act of direct infringement Affymetrix must show, *inter alia*, that Illumina,

offers to sell or sells within the United States . . . a component of a patented machine, manufacture, combination or composition . . . constituting a material part of the invention, knowing the same to

be especially made or adapted for use in an infringement of such patent, *and not a staple article or commodity of commerce suitable for substantial noninfringing use.*

35 U.S.C. § 271(c) (emphasis added). Affymetrix has not offered any evidence to meet its burden that Illumina's products are not capable of a substantial noninfringing use. Therefore, Affymetrix's claim—to the extent Affymetrix even maintains this argument at this point—that Illumina contributed to the infringement of Illumina's products must fail as a matter of law.

D. Affymetrix Is Judicially Estopped From Asserting Infringement of U.S. Patent No. 6,355,432.

Affymetrix is judicially estopped from asserting infringement of the '432 patent. Specifically, Affymetrix is misapplying the Court's claim construction of "beads being coded with an encoding system" to cover Illumina's accused products and services, which runs contrary to its own admission and stipulation. Affymetrix admitted that the earliest filed patent application assigned to Affymetrix that describes "a collection of beads with an encoding system" was filed on December 6, 1990. (Ex. A (Affymetrix, Inc.'s Responses to Illumina, Inc.'s Second Set of Requests for Admission No. 63). During trial, Affymetrix stipulated that "the first disclosure in this series [of patent applications] of beads with any kind of encoding system occurred in the December 6, 1990 application." (Ex. B (3/6/07 Trial Tr.), at 356:6-8). Affymetrix's expert, Dr. Struhl, however, testified that under his application of the Court's claim construction of "beads being coded with an encoding system," U.S. Patent No. 6,646,243 ("the '243 patent") also describes "a collection of beads with an encoding system."⁷ The '243 patent

⁷ Dr. Struhl admitted that the '243 patent includes "beads in fixed locations that don't move." (Ex. C (3/7/07 Trial Tr.), at 721:22-722:6). Dr. Struhl further admitted that "if the beads don't move and the positions are definable positions," such beads would be "a collection of beads with an encoding system." (*Id.* at 720:14-17). Therefore, Dr. Struhl admits that the '243 patent describes "a collection of beads with an encoding system."

claims priority to March 7, 1990,⁸ almost 9 months *earlier* than when Affymetrix admitted it filed the *first* application disclosing beads with an encoding system. Therefore, Affymetrix is re-arguing the Court's claim construction in a way that is contrary to its own binding judicial admission and stipulation, and should be precluded from asserting infringement of the '432 patent.

E. Affymetrix Cannot Recover Damages Prior To The Filing Of The Lawsuit Because It Failed To Comply With 35 U.S.C § 287(a).

Under 35 U.S.C. § 287(a), once a patentee sells patented articles, it is not entitled to recover damages until it marks its patented products with the relevant patent numbers or gives the alleged infringer actual notice of the alleged infringement. 35 U.S.C. § 287(a). The burden of proving compliance with § 287(a) lies with the patent owner. *Maxwell v. J. Baker Inc.*, 86 F.3d 1098, 1111-12 (Fed. Cir. 1996). To properly mark its products such that the patentee can recover damages prior to providing actual notice, the patentee must "consistently mark[] substantially all of its patented products, and . . . no longer distribut[e] unmarked products." *American Med. Sys., Inc. v. Medical Eng'g Corp.*, 6 F.3d 1523, 1538 (Fed. Cir. 1993).

To meet its marking requirements, the patent holder must place the word "patent" (or the abbreviation "pat.") and the patent number *on* the patented article. 35 U.S.C. § 287(a). This is especially true if the patentee includes other markings or printings on the patented article. *See, e.g., Rutherford v. Trim-Tex, Inc.*, 803 F.Supp. 158, 163-64 (N.D. Ill 1992) (citing *John L. Rie, Inc. v. Shelly Bros., Inc.*, 366 F.Supp. 84, 90-91 (E.D. Pa. 1973); *Creative Pioneer Products Corp. v. K-Mart Corp.*, 1987 WL 54482, at *4 (S.D. Tex. July 10, 1987) (patentee should have marked patented article instead of packaging with patent numbers when the article was marked

⁸ Affymetrix alleges a conception date of the '243 patent invention as early as March 7, 1990. (Ex. D (3/5/07 Trial Tr.), at 241:6-242:12).

with millimeter and quarter inch calibrations). When a patent contains both method and apparatus claims, the patentee is required to mark the apparatus "to the extent that there is a tangible item to mark by which notice of the asserted claims can be given. . . ." *American Med. Sys., Inc.*, 6 F.3d at 1538-39. It is thus not sufficient to place the patent numbers on package inserts, as opposed to the packaging itself where it is feasible to mark the product itself. *See e.g., Stryker Corp. v. Intermedics Orthopedics, Inc.*, 891 F. Supp. 751, 829-30, *aff'd* 96 F.3d 1409 (Fed. Cir. 1996) (insufficient marking when patentee placed patent number on product literature that was distributed to the trade, but did not mark product or packaging); *Metrologic Instruments, Inc. v. PSC, Inc.*, 2004 WL 2851955, at * 20 (D. N.J. Dec. 13, 2004) (insufficient marking when patentee labeled packages with "See User's Guide for Patent Coverage" but only included patent numbers on package insert).

In this case, Affymetrix has not established that it consistently marked any of its products, let alone "substantially all of its patented products." Additionally, Affymetrix failed to provide sufficient evidence demonstrating that it marked the product itself, as required under applicable law. Accordingly, Affymetrix is precluded as a matter of law from recovering any damages prior to the point at which it provided Illumina with actual notice of which Illumina products allegedly infringe the patents-in-suit, which is when Affymetrix filed suit in this case.⁹

F. Affymetrix Failed To Prove It Is Entitled To Recover Lost Profits Damages.

Affymetrix has failed to offer evidence to establish its entitlement to lost profits. As an initial matter, Affymetrix is not entitled to lost profits because it failed to prove to any degree of

⁹ To provide actual notice prior to filing suit, the patent owner must provide "affirmative communication [to the alleged infringer] of a specific charge of infringement by a specific accused product or device. . . ." *Gart v. Logitech, Inc.*, 254 F.3d 1334, 45 (Fed. Cir. 2001) (citing *Amsted Ind. Inc. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994)). Here Affymetrix has not introduced any evidence that it has met this standard of actual notice prior to filing suit.

certainty the amount it would have actually netted from substitute sales. *See Paper Converting Mach. Co. v. Magna Graphics*, 745 F.2d 11, 23 (Fed. Cir. 1984); *see also Panduit Corp. v. Stahl Bros. Fibre Works Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978). Instead, its analysis hinges on the assumption that Affymetrix would have sold ***something*** in place of each accused Illumina sale, while at the same time failing to offer evidence of what Affymetrix's products are, or can be used for. Evidence regarding product substitutability is particularly important in this case, when both Affymetrix and Illumina acknowledge there is intense competition in the relevant markets. (Ex. B (3/6/2007 Trial Tr.), at 362:8-17; Ex. E (3/8/2007 Trial Tr.), at 1020:5-20; 1022:3-11).

In place of legally sufficient evidence regarding product substitutability, Affymetrix relies on speculation and unsupported assumptions. In fact, Affymetrix's damages expert, Dr. Lynde, testified that he did not—and could not—determine what Affymetrix product would substitute for any Illumina product. (Ex. E (3/8/07 Trial Tr.), at 972:6-21). Without evidence of what Affymetrix's products are or can be used for, it is impossible to determine (even if Dr. Lynde had talked to customers, which he did not) the Affymetrix products, if any, that customers would consider as substitutes for the Illumina products that they purchased. Without this evidence, Affymetrix's lost profits analysis is speculative and should not be presented to the jury.¹⁰

Additionally, Affymetrix was required to prove it had capacity to exploit demand for the patented products. *Panduit Corp.*, 575 F.2d at 1156. Dr. Fodor, Affymetrix's CEO, testified that

¹⁰ Because it does not know what Affymetrix products would substitute for each Illumina product, Affymetrix does not know at what price it would have sold its unknown product, at what volume it would have sold such unknown product, and at what profit it would have sold such product. Instead, Affymetrix just ***assumes that it would make exactly the same revenue*** as Illumina made on the sale of its accused product. Affymetrix made this assumption despite agreeing that there is substantial disparity in pricing and characteristics between Affymetrix's and Illumina's products.

Affymetrix has experienced capacity *constraints* that have precluded it from meeting demand.

Specifically, Dr. Fodor testified

[w]ell, so over the years, you know, in any manufacturing process, obviously, you have fluctuations in yields. That's one thing that bears into it. Another is your overall capacity. And the years you spoke about, 2004, 2005, 2006 various issues hit the manufacturing capacities, including demands, including yields. And then as you mentioned when we initially launched the 500K product, it was a very poor product launch. And we had a lot of replacements to do, and we had a lot of issues to deal with. And there the manufacturing capacity, given the lower yields, was a major issue.

(See Ex. B (3/6/07 Trial Tr.), at 370:21-371:12). This provides an additional reason that Affymetrix is not entitled to lost profits as a matter of law.

G. Affymetrix Has Not Introduced Evidence To Support Its Reasonable Royalty Analysis.

Affymetrix's reasonable royalty analysis—whereby it claims it is entitled to a 12% royalty rate—is not supported by legally sufficient evidence. Affymetrix did not establish that the royalty rates in other licenses are relevant to determine the reasonable royalty in this case. For example, many of the licenses on which Affymetrix relies do not provide a benchmark for evaluating a reasonable royalty for the patents-in-suit. Moreover, many of the licenses explicitly grant rights to dozens of patents, or do not identify any patents at all, but merely provide a license to the licensee for freedom to operate. Further, in arriving at its over inflated 12% royalty rate, Affymetrix ignores the royalty rates Illumina actually pays in licenses that are more closely related to this case, such as its license with Tufts University that is at the core of the accused products. Additionally, Affymetrix offers no legitimate evidence that Illumina could sustain its profitability of the accused products while paying a 12% royalty rate under the hypothetical negotiations. Therefore, Affymetrix's claimed 12% royalty rate must be denied as a matter of law.

CONCLUSION

For the foregoing reasons, Illumina respectfully requests that this Court grant its Motion for Judgment of Matter of Law pursuant to Federal Rule of Civil Procedure 50(a) that Illumina and/or its customers have not directly or indirectly infringed the patents-in-suit, and that Affymetrix is not entitled to lost profits or a reasonable royalty.

Dated: March 12, 2007

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EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC.,)	
)	
Plaintiff,)	C. A. No. 04-901 (JJF)
)	
v.)	
)	
ILLUMINA, INC.,)	
)	
Defendant.)	

**AFFYMETRIX, INC.'S RESPONSES TO ILLUMINA, INC.'S
SECOND SET OF REQUESTS FOR ADMISSION**

Affymetrix, Inc. ("Affymetrix") hereby objects and responds to Illumina, Inc.'s
("Illumina") Second Set of Requests for Admission.

GENERAL OBJECTIONS

Affymetrix hereby incorporates by reference all applicable General Objections set forth
in Affymetrix's Responses to Illumina's Interrogatories, Requests for Production of Documents
and Things, and First Set of Requests For Admission.

SPECIFIC OBJECTIONS AND RESPONSES

REQUEST FOR ADMISSION NO. 25:

Affymetrix has sold DNA array products at prices below its variable cost.

RESPONSE TO REQUEST FOR ADMISSION NO. 25:

Affymetrix objects to this request as overly broad to the extent that it is directed to
matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to
this request on the grounds that the terms "DNA array products," "sold" and "variable cost" are

vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 26:

Affymetrix has offered DNA array products for sale at prices below its variable cost.

RESPONSE TO REQUEST FOR ADMISSION NO. 26:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to this request on the grounds that the terms "DNA array products" "sale" and "variable cost" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 27:

Affymetrix has offered a customer one or more free Affymetrix products with a sale of Affymetrix products.

RESPONSE TO REQUEST FOR ADMISSION NO. 27:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to this request on the grounds that the terms "sale" and "product" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 28:

Affymetrix has made sales where a customer was provided one or more free Affymetrix products.

RESPONSE TO REQUEST FOR ADMISSION NO. 28:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to this request on the grounds that the terms “sale” and “product” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 29:

Affymetrix has offered a customer a free 100K chip with a sale of Affymetrix products.

RESPONSE TO REQUEST FOR ADMISSION NO. 29:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to this request on the grounds that the terms “sale” and “product” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 30:

Affymetrix has lost sales of DNA array products to Illumina.

RESPONSE TO REQUEST FOR ADMISSION NO. 30:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to this request on the grounds that the terms “lost” “sale” and “product” are vague and ambiguous.

Affymetrix also objects to this request to the extent that it calls for information not in the possession of Affymetrix. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 31:

Illumina has lost sales of DNA array products to Affymetrix.

RESPONSE TO REQUEST FOR ADMISSION NO. 31:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request as vague and ambiguous. Affymetrix further objects to this request on the grounds that the terms “lost” “sale” and “product” are vague and ambiguous. Affymetrix also objects to this request to the extent that it calls for information not in the possession of Affymetrix. Subject to these objections and the general objections outlined above, Affymetrix responds that it lacks the information necessary to admit or deny this request.

REQUEST FOR ADMISSION NO. 32:

Affymetrix has employed former Illumina employees.

RESPONSE TO REQUEST FOR ADMISSION NO. 32:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the term “employees” is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 33:

Affymetrix has a business partnership with Perlegen.

RESPONSE TO REQUEST FOR ADMISSION NO. 33:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the term "business partnership" is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 34:

Affymetrix has an ownership interest in Perlegen.

RESPONSE TO REQUEST FOR ADMISSION NO. 34:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the term "ownership interest" is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 35:

Affymetrix has collaborated with Perlegen on sales of DNA array products to customers.

RESPONSE TO REQUEST FOR ADMISSION NO. 35:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "collaborated," "sales," and "DNA array products" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 36:

Affymetrix has an ownership interest in ParAllele.

RESPONSE TO REQUEST FOR ADMISSION NO. 36:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the term "ownership interest" is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 37:

Affymetrix has collaborated with ParAllele on sales of DNA array products to customers.

RESPONSE TO REQUEST FOR ADMISSION NO. 37:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms "collaborated," "sales," and "DNA array products" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 38:

Affymetrix entered into a Patent License Agreement on or about April 8, 2004 with Axon to obtain a license to certain Axon Patents and Axon obtained a license to the Affymetrix Scanner Patent Rights as defined in the Patent License Agreement.

RESPONSE TO REQUEST FOR ADMISSION NO. 38:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 39:

Affymetrix's contract with Axon limits Axon's ability to do business with Illumina.

RESPONSE TO REQUEST FOR ADMISSION NO. 39:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "ability" and "business" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix responds that it lacks the information necessary to admit or deny this request.

REQUEST FOR ADMISSION NO. 40:

Affymetrix entered into an Agreement on or about June 29, 2002 with Gene Logic to obtain a non-exclusive license to certain technology relating to invariant gene expression as defined in that Agreement.

RESPONSE TO REQUEST FOR ADMISSION NO. 40:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the term "relating" is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 41:

Affymetrix's contract with Gene Logic limits Gene Logic's ability to do business with Illumina.

RESPONSE TO REQUEST FOR ADMISSION NO. 41:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “ability” and “business” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix responds that it lacks the information necessary to admit or deny this request.

REQUEST FOR ADMISSION NO. 42:

An Affymetrix employee has attempted to access Illumina's confidential ecommerce website without divulging that he/she was an Affymetrix employee.

RESPONSE TO REQUEST FOR ADMISSION NO. 42:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “attempted,” “access,” and “divulging” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 43:

Non-lawyers at Affymetrix have possessed and/or possess confidential Illumina information.

RESPONSE TO REQUEST FOR ADMISSION NO. 43:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “information” and “possess,” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 44:

Affymetrix has maintained an "Illumina war room."

RESPONSE TO REQUEST FOR ADMISSION NO. 44:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the term "maintained" is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 45:

Affymetrix has informed one or more customers that Illumina's products will be technically obsolete.

RESPONSE TO REQUEST FOR ADMISSION NO. 45:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "informed," "customers," "products" and "obsolete" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 46:

Affymetrix has informed one or more customers that Illumina will be going out of business.

RESPONSE TO REQUEST FOR ADMISSION NO. 46:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "informed," "customers,"

“products” and “going out of business” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 47:

Affymetrix has sought patent claims with the intent of covering Illumina's products.

RESPONSE TO REQUEST FOR ADMISSION NO. 47:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “intent,” and “products” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 48:

Stephen Fodor was aware that researchers at the Engelhardt Institute of Molecular Biology had used a computer to compare hybridization intensities and make base calls no later than January 1992.

RESPONSE TO REQUEST FOR ADMISSION NO. 48:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “used,” “computer,” “aware,” “compare hybridization intensities” and “base calls” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 49:

Robert Lipshutz was aware that researchers at the Engelhardt Institute of Molecular Biology had used a computer to compare hybridization intensities and make base calls no later than January 1992.

RESPONSE TO REQUEST FOR ADMISSION NO. 49:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "used," "computer," "aware," "compare hybridization intensities" and "base calls" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 50:

Stephen Fodor was aware that researchers at the Engelhardt Institute of Molecular Biology had used a computer to compare hybridization intensities and make base calls no later than October 1992.

RESPONSE TO REQUEST FOR ADMISSION NO. 50:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "used," "computer," "aware," "compare hybridization intensities" and "base calls" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 51:

Robert Lipshutz was aware that researchers at the Engelhardt Institute of Molecular Biology had used a computer to compare hybridization intensities and make base calls no later than October 1992.

RESPONSE TO REQUEST FOR ADMISSION NO. 51:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "used," "computer,"

“aware,” “compare hybridization intensities” and “base calls” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 52:

Use of a bar code with a biological sample was known by one of ordinary skill in the art as of 1993.

RESPONSE TO REQUEST FOR ADMISSION NO. 52:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “use,” “one of ordinary skill in the art” and “biological sample,” are vague and ambiguous. Affymetrix further objects to this request on the grounds that it requests a response to a conclusion of law and is an attempt to obtain premature expert discovery. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 53:

One of ordinary skill in the art could construct high density microarrays of nucleic acids as of 1993.

RESPONSE TO REQUEST FOR ADMISSION NO. 54:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “one of ordinary skill in the art” and “construct,” and “high density” are vague and ambiguous. Affymetrix further objects to this request on the grounds that it requests a response to a conclusion of law and is an attempt to obtain premature expert discovery. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 54:

Affymetrix could construct high density microarrays of nucleic acids as of 1993.

RESPONSE TO REQUEST FOR ADMISSION NO. 54:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "construct," and "high density" are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 55:

Stephen Fodor had knowledge of the "sequencing chip" (encoded beads with nucleic acids on a surface) idea of Drs. Radomir Crkvenjakov and Radoje Dramanac prior to December 1990.

RESPONSE TO REQUEST FOR ADMISSION NO. 55:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence.

Affymetrix further objects to this request on the grounds that the terms "knowledge," "sequencing chip," "encoded beads," "on a surface," and "idea" are vague and ambiguous.

Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 56:

Stephen Fodor had knowledge of the "sequencing chip" (encoded beads with nucleic acids on a surface) idea of Drs. Radomir Crkvenjakov and Radoje Dramanac prior to March 1990.

RESPONSE TO REQUEST FOR ADMISSION NO. 56:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “knowledge,” “sequencing chip,” “encoded beads,” “on a surface,” and “idea” are vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 57:

The Rava '531 patent claims an "array of arrays" concept.

RESPONSE TO REQUEST FOR ADMISSION NO. 57:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “array or arrays” and “concept” are vague and ambiguous. Affymetrix further objects to this request on the grounds that it requests a response to a conclusion of law and is an attempt to obtain premature expert discovery. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 58:

The Rava '531 patent describes an "array of arrays" concept.

RESPONSE TO REQUEST FOR ADMISSION NO. 58:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “array or arrays” and

“concept” are vague and ambiguous. Affymetrix further objects to this request on the grounds that it requests a response to a conclusion of law and is an attempt to obtain premature expert discovery. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 59:

Affymetrix has paid Oxford Gene Technology (OGT) over \$90 million for rights to use OGT's intellectual property.

RESPONSE TO REQUEST FOR ADMISSION NO. 59:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the term “use” is vague and ambiguous, and Affymetrix obtained other rights besides the right to “use OGT’s intellectual property.” Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 60:

Neither Affymetrix nor any Affymetrix employee was the first person or entity to invent DNA arrays.

RESPONSE TO REQUEST FOR ADMISSION NO. 60:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “invent” and “DNA arrays” are vague and ambiguous. Affymetrix further objects to this request on the grounds that it requests a response to a conclusion of law and is an attempt to obtain premature expert

discovery. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 61:

Stephen Fodor attended the Human Genome II Conference in San Diego in October 1990.

RESPONSE TO REQUEST FOR ADMISSION NO. 61:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Subject to this objection and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 62:

Stephen Fodor attended a presentation by Radomir Crkvenjakov and/or Radoje Drmanac at the Human Genome II Conference.

RESPONSE TO REQUEST FOR ADMISSION NO. 62:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Subject to this objection and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 63:

United States Patent Application No. 07/624,114, filed December 6, 1990, is the earliest filed patent application assigned to Affymetrix or Affymax that describes a collection of beads with an encoding system.

RESPONSE TO REQUEST FOR ADMISSION NO. 63:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the terms “describes” and “collection” and “encoding system” are vague and ambiguous. Affymetrix further objects to this request on the grounds that it requests a response to a conclusion of law and is an attempt to obtain premature expert discovery. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

REQUEST FOR ADMISSION NO. 64:

Affymetrix had knowledge of United Kingdom Patent Application GB 2129551A ("Mochida") no later than January 1, 2002.

RESPONSE TO REQUEST FOR ADMISSION NO. 64:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the term “knowledge” is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

REQUEST FOR ADMISSION NO. 65:

Affymetrix had knowledge of International Patent Application WO 93/17126 prior to January 1, 1996.

RESPONSE TO REQUEST FOR ADMISSION NO. 65:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the term “knowledge” is vague and

ambiguous. Subject to these objections and the general objections outlined above, Affymetrix admits this request.

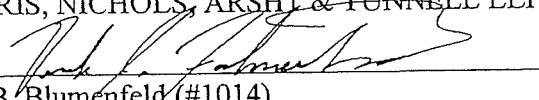
REQUEST FOR ADMISSION NO. 66:

Stephen Fodor had knowledge of International Patent Application WO 93/17126 prior to January 1, 1996.

RESPONSE TO REQUEST FOR ADMISSION NO. 66:

Affymetrix objects to this request as overly broad to the extent that it is directed to matters that are not reasonably calculated to lead to the discovery of admissible evidence. Affymetrix further objects to this request on the grounds that the term "knowledge" is vague and ambiguous. Subject to these objections and the general objections outlined above, Affymetrix denies this request.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP


Jack B. Blumenfeld (#1014)

Maryellen Noreika (#3208)

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(510) 428-8500

February 3, 2006

505076

CERTIFICATE OF SERVICE

The undersigned hereby certifies that copies of Affymetrix, Inc.'s Responses To Illumina, Inc.'s Second Set Of Requests For Admission were caused to be served this 3rd day of February, 2006 upon the following in the manner indicated:

BY HAND DELIVERY

Richard K. Herrmann
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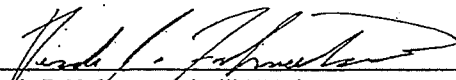

Derek J. Fahnestock (#4705)

EXHIBIT B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC.,) Trial Volume II
)
) Plaintiff,
)
v.)
)
ILLUMINA, INC.,) C.A. No. 04-901-JJF
)
) Defendant.
)

Tuesday, March 6, 2007
9:35 a.m.
Courtroom 4B

844 King Street
Wilmington, Delaware

BEFORE: THE HONORABLE JOSEPH J. FARNAN, JR.
 United States District Court Judge

APPEARANCES:

MORRIS, NICHOLS, ARSHT & TUNNELL
BY: MARYELLEN NOREIKA, ESQ.
BY: JACK BLUMENFELD, ESQ.

-and-

AFFYMETRIX
BY: MICHAEL J. MALECEK, ESQ.
BY: ANDREA GROSS, ESQ.
BY: DANIEL REED, ESQ.

Counsel for the Plaintiff

1 (Jury entering the courtroom at
2 11:27 p.m.)

3 THE COURT: All right. Be seated,
4 please.

5 MR. KRUPKA: May I resume, Your
6 Honor?

7 THE COURT: Yes.

8 MR. KRUPKA: Thank you.

9 Mr. Thomas, could you put the '432
10 patent back up on the screen, please, and that
11 same section we were just talking about, the
12 related U.S. application data.

13 And for the record, Your Honor, I
14 would like to note that Mr. Thomas, however
15 helpful, has you'll see on the bottom has DX 5,
16 it's actually the same patent, but it's clearer
17 on the screen and for the benefit of the Court
18 and the jury we thought we would use the clearer
19 version as opposed to the fuzzier version, but
20 it's the same and Mr. Malecek has no objection.
21 But we'll use Trial Exhibit 3 as the reference
22 because that's the one that's in evidence.

23 So if we could blow that up again,
24 Mr. Thomas.

1 BY MR. KRUPKA:

2 Q. And Dr. Fodor, your lawyer,
3 Mr. Malecek, and I have saved you.

4 A. Okay.

5 Q. We have agreed to a stipulation
6 that the first disclosure in this series of
7 beads with any kind of encoding system occurred
8 in the December 6, 1990 application.

9 A. To the patent office, yes.

10 Q. Yes. Yes. Yes.

11 So, now, you were a named inventor
12 at this time; correct, actually you became a
13 named inventor in March of 1990; is that right?

14 A. I believe that's right.

15 Q. Okay. And so you were one of the
16 named inventors of -- on the patent application
17 that was filed in December of 1990; correct?

18 A. Correct.

19 Q. And that means that you said that
20 you made a representation that you were the
21 person that actually invented that subject
22 matter?

23 A. With the other inventors, yes.

24 Q. With the other inventors.

1 And is it your position that you,
2 along with the other inventors, are the person
3 who invented the subject, or the concept of the
4 idea of beads with some kind of encoding system?

5 A. I mean, the actual -- the actual
6 invention, again, just to be clear because I
7 don't want to claim things that I shouldn't, was
8 to the language in the claim itself. And so we
9 do represent that we disclosed to the patent
10 office the subject material in the patent, and
11 then we were granted a patent on that.

12 Q. Well, I thought we just agreed a
13 little while ago that the first claims that said
14 anything about beads with any kind of encoding
15 system weren't added until I think June of 2000;
16 isn't that right?

17 A. June of 2000.

18 Q. Which is the filing date of the
19 '432 patent?

20 A. Sorry, in the -- whatever is in
21 the written description we contributed, if
22 that's what you're asking.

23 Q. And so let me just ask again.

24 A. Okay.

1 Q. And these are your notes of your
2 meeting in October of 1990?

3 A. The meeting that I went to in
4 October of 1990 was a scientific conference, and
5 these are my notes. There are many different
6 subjects in these notes. There were multiple
7 presenters and these are notes of some of the
8 various talks.

9 Q. So I'll take away extensive so we
10 don't have a disagreement of those. There is a
11 few pages of notes that relate to your meeting
12 with D and C?

13 A. Let me check.

14 Yeah, looks like there is about
15 two-and-a-half.

16 Q. Thank you. I'm glad we clarified
17 that.

18 Okay. Now, can you take that
19 down, please, Mr. Thomas. Thank you.

20 We can stop talking about patents
21 for a little while and start talking about the
22 other parts of your testimony relating to the
23 business of Affymetrix.

24 Would it be fair to say, Doctor,

1 that you don't get to spend as much time in the
2 lab as you used to before you became the CEO?

3 A. That would be a fair statement.

4 Q. And now you have to deal with all
5 sorts of issues that a CEO of a major company
6 has to deal with?

7 A. That would be a true statement.

8 Q. And you consider that your company
9 faces intense competition in the field in which
10 you operate?

11 A. Well, we face competition, and
12 competition is often intense, so that's part of
13 the game.

14 Q. And from lots of different
15 companies?

16 A. Yeah, multiple companies, multiple
17 fronts, sure.

18 Q. And over the years you have made
19 various acquisitions that take up a lot of your
20 time and energy; correct?

21 A. In general, I suppose.

22 Q. You have made three or four
23 acquisitions as a CEO, haven't you?

24 A. Yeah, different ones require

1 different amounts of attention and so on, so I
2 don't know if I would represent it quite how you
3 are, but we have made acquisitions.

4 Q. Now, in the context of some of the
5 products that you talked about with Mr. Malecek,
6 you went through and talked about the genotyping
7 market. The genotyping market, the sort of SNP
8 genotyping, you remember the slide that showed
9 the two, there is gene expression and the SNP
10 genotype. The genotyping market actually has at
11 least two aspects to it, one which is the whole
12 genome or a large part of it as I described
13 before and there is another part of it that
14 deals with custom or fine mapping; isn't that
15 right?

16 A. You can describe it that way.
17 There is a lot of different ways to describe it.

18 Q. Well, isn't that the way that
19 Affymetrix looks at it?

20 A. Sometimes. I mean, again, we tend
21 to talk about it in terms of our own products
22 and the markets that, you know, we go after, but
23 you know, the reality is that there are several
24 different markets within DNA genotyping,

1 Q. You had all sorts of problems
2 manufacturing it with satisfactory yields;
3 correct?

4 A. Yeah. I think that's -- that's
5 right. With sufficient yields.

6 Q. Right. And the yields started out
7 in the 40-percent range when you really targeted
8 something over 90 percent for yields; right?

9 A. Well, we -- well, we like to have
10 as a sustainable product well over 90-percent
11 yields.

12 Q. Now, can you explain to us what
13 yield means, so we all understand the same
14 definition?

15 A. Yeah. Well, it's complex,
16 obviously, and it's used differently in
17 different ways.

18 But generally what happens is
19 there in the context we're using it right now,
20 we manufacture a product and then take a look at
21 its performance, and see if it passes a certain
22 threshold.

23 If it passes a certain threshold,
24 then a certain percentage of what you

1 manufactured is what I'd call that passes that
2 threshold is what you called a yield in this
3 case.

4 Q. So stated hopefully a little more
5 simply, it's what percentage of what you make
6 you can actually sell because it works properly?

7 A. Yes. I suppose that's what it
8 comes down to. But in general, it's -- you
9 know, you set some specification and the things
10 that pass that, then you're willing to sell.

11 Yeah.

12 Q. So if you make a hundred of them
13 and only 50 of them pass specification, you have
14 a 50-percent yield?

15 A. Correct.

16 Q. And you had problems with
17 manufacturing capacity in 2004 and 2005, and
18 even going into 2006, because of these yield
19 problems and quality problems associated with
20 the 500K product; correct?

21 A. Well, so over the years, you know,
22 in any manufacturing process, obviously, you
23 have fluctuations in yields. That's one thing
24 that bears into it.

1 Another is your overall capacity.

2 And the years you spoke about, 2004, 2005, 2006
3 various issues hit the manufacturing capacities,
4 including demands, including yields.

5 And then as you mentioned when we
6 initially launched the 500K product, it was a
7 very poor product launch. And we had a lot of
8 replacements to do, and we had a lot of issues
9 to deal with.

10 And there the manufacturing
11 capacity, given the lower yields, was a major
12 issue.

13 Q. And so what you did, in part, is
14 you expanded your manufacturing in West
15 Sacramento; right?

16 A. Yes.

17 Q. And, in part, you also decided to
18 build an open plant in Singapore?

19 A. Yes.

20 Q. And that was only part of the
21 reason you decided to open the plant in
22 Singapore. Another part of the reason was to
23 save on paying U.S. taxes?

24 A. Well, you know, so during the

1 2005-2006 time frame, I believe we almost
2 doubled chip manufacturing in West Sacramento
3 and we built a plant in Singapore.

4 But at the same time, you know,
5 Affymetrix has become a global company. We now
6 have quite a bit of business in Japan,
7 Singapore, China and that part of the world.
8 And we did build a manufacturing plant there.

9 And, yes, there are tax saving
10 reasons to do that.

11 Q. Okay. Now, the manufacturing
12 constraints that you just talked about that you
13 ended up dealing with by building additional
14 capacity affected the ability to meet demands
15 for other products besides the 500K; isn't that
16 right?

17 A. Yes. It's somewhat of a complex
18 equation. And when we talk about manufacturing
19 capacity, generally, you know, you get a lot of
20 orders, and you have to fulfill those orders.

21 And so what it affects, of course,
22 is the timing by which those orders are
23 fulfilled. And so, yes, as we get caught up in
24 manufacturing capacity, it does tend to trickle

EXHIBIT C

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

COPY

AFFYMETRIX, INC.,) Trial Volume III
)
) Plaintiff,
) C.A. No. 04-901-JJF
v.)
)
ILLUMINA, INC.,) Defendant.
)

Wednesday, March 7, 2007
9:35 a.m.
Courtroom 4B

844 King Street
Wilmington, Delaware

BEFORE: THE HONORABLE JOSEPH J. FARNAN, JR.
 United States District Court Judge

APPEARANCES:

MORRIS, NICHOLS, ARSHT & TUNNELL
BY: MARYELLEN NOREIKA, ESQ.
BY: JACK BLUMENFELD, ESQ.

-and-

AFFYMETRIX
BY: MICHAEL J. MALECEK, ESQ.
BY: ANDREA GROSS, ESQ.
BY: DANIEL REED, ESQ.

Counsel for the Plaintiff

1 Claim 14 includes something with
2 at least a thousand different beads that are
3 "X", "Y" coordinates in a substrate; correct?

4 They're in locations within a
5 square centimeter?

6 A. I don't think this really
7 explicitly talks about "X" "Y" coordinates in
8 this particular claim.

9 Q. Neither does Claim 2. I'm trying
10 to work with your language here.

11 So Claim 14 has a thousand
12 different spheres, beads or particles within a
13 square centimeter; right?

14 A. Yes.

15 Q. Okay. So it's clearly more than
16 two beads?

17 A. Yeah.

18 Q. And those more than two beads are
19 in a location?

20 A. Yes. I assume that they're in a
21 defined "X", "Y" location.

22 Q. Okay. And they -- in Claim 14,
23 they are in a defined "X", "Y" location; right?

24 A. Well, it doesn't say it. To use

1 your words, that's not actually explicitly in
2 there. But one assumes that when the beads are
3 somewhere that you're talking about the beads at
4 that given time being in a location, yes.

5 Q. Okay. So in Claim 14, as you
6 understand it, you're talking about beads being
7 in a location; right?

8 A. Well, they are in some location,
9 yes.

10 Q. Okay. So we have beads in a
11 location with binding polymers on them; right?

12 A. There are beads in a location,
13 yes. And there are binding polymers, okay.

14 Q. Okay. So that's a collection of
15 beads with an encoding system; right?

16 A. If the beads don't move and the
17 positions are definable positions, --

18 Q. Okay.

19 A. -- which is not explicitly stated
20 here. But if that were the case, then, yes, if
21 they were defined as I said, just like in the
22 dmap file, a physician needs an "X" "Y"
23 coordinate. That's a defined position.

24 Q. And Claim 14 includes a situation

1 where beads are in defined positions and don't
2 move; correct?

3 A. Yeah. It might include words that
4 are not in defined positions.

5 Q. That wasn't my question. Claim 14
6 includes the situation where beads are in
7 defined locations and they don't move; correct?

8 A. I think -- I think that that would
9 be included in here, yes, if you had that.

10 Q. Yeah. Okay.

11 So 14 includes the situation --
12 includes that situation; right? It may be
13 broader in your mind, but Claim 14 includes the
14 situation where beads are in fixed locations and
15 don't move; correct?

16 That's what Illumina's products
17 have. And you said, according to your
18 testimony, you said it covers it, so I must be
19 right; correct?

20 A. I just -- I think I'll just stick
21 to the answer I said before.

22 Q. Okay. Let me -- Claim 14 includes
23 the situation, and it may be broader in your
24 mind, but includes the situation where the beads

1 are in fixed locations and don't move according
2 to your analysis; correct?

3 A. It actually say that --

4 Q. Okay.

5 A. It could be. It could fit that
6 description. It could.

7 Q. Okay. Now, in the '432 -- well,
8 so the beads in Claim 14, by your analysis and
9 your statement, that location can be an encoding
10 system. Then the beads in Claim 14 have an
11 encoding system; right?

12 A. If they're in a fixed position.
13 In the case where things are in a fixed
14 definable "X", "Y" coordinate space, that is a
15 property of the bead that can be used just like
16 color could be used.

17 Q. Okay. And Claim 14 includes a
18 situation where the beads are in a fixed
19 location?

20 A. Yeah. You can have the beads in a
21 fixed location, I think.

22 Q. Okay. Let's go to Plaintiff's
23 Demonstrative Exhibit 113, please.

24 MR. PALS: Can you find that,

1 Mr. Thomas?

2 BY MR. PALS:

3 Q. This is another slide you
4 testified about; correct, Dr. Struhl?

5 A. I did.

6 Q. Now, the dmap that you talked
7 about, that's on the CD; right?

8 A. I assume you can get the dmap in
9 any format. It's a computer file, so I don't
10 know.

11 You can probably get it on a CD.

12 Q. Well, it states "The decode map
13 files reside on the CD."

14 A. Okay. That's how they probably
15 should have been, but they don't have to do it
16 that way?

17 Q. How do they do it, Dr. Struhl?

18 A. I don't know. I assume they ship
19 it on the CD.

20 Q. Okay. You don't know.

21 All right. Let's take your
22 assumption. Assume, again, that they're on the
23 CD. The CD obviously is not a bead; right?

24 A. No.

EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC.,) Trial Volume I
)
 Plaintiff,)
) C.A. No. 04-901-JJF
v.)
)
ILLUMINA, INC.,)
)
 Defendant.)

Monday, March 5, 2007
9:40 a.m.
Courtroom 4B

844 King Street

Wilmington, Delaware

BEFORE: THE HONORABLE JOSEPH J. FARNAN, JR.
United States District Court Judge

APPEARANCES:

MORRIS, NICHOLS, ARSHT & TUNNELL
BY: MARYELLEN NOREIKA, ESQ.
BY: JACK BLUMENFELD, ESQ.

-and-

AFFYMETRIX
BY: MICHAEL J. MALECEK, ESQ.
BY: ANDREA GROSS, ESQ.
BY: DANIEL REED, ESQ.

Counsel for the Plaintiff

1 fluorescence groups and so on, and I believe
2 that's what's plotted on this very screen.

3 Q. And when you say you scanned
4 beads, what size of beads, do you recall?

5 A. I think these were -- they were
6 sub 10 micron, they were seven, six or seven
7 microns, I believe.

8 Q. And did they have biological
9 polymers on them?

10 A. No. No. These were basic bead
11 technology, beads that just contained
12 fluorescence molecules on them.

13 Q. What was the purpose of those
14 experiments?

15 A. To detect -- to one show that I
16 could optimize the optics of such a system. And
17 also to quantitate, actually counting of
18 molecules because ultimately what we would be
19 doing as you might have guessed is to use
20 biological polymers and to bind different types
21 of biological polymers together. And one of the
22 things we wanted to do was to be able to
23 understand what are the limits of detection and
24 how sensitive could the system be, what was the

1 resolution of the system and so on.

2 Q. Now, is the work that is shown
3 here in your lab, is that a concept that finds
4 its way into one of the patents in this case?

5 A. Yes, it does.

6 Q. And could I ask you to turn in
7 your binder to Plaintiff's Exhibit 5. And if I
8 could have that on the screen, please. It's a
9 little grouped up there. And what are we seeing
10 here on the screen, Dr. Fodor?

11 A. This is the front page of the '243
12 patent that is entitled Nucleic Acid Reading and
13 Analysis System.

14 Q. And are you one of the inventors
15 listed there?

16 A. I am.

17 Q. And who are the other inventors?

18 A. Michael Pirrung, Leighton Reed,
19 and Hubert Stryer.

20 Q. Is that Dr. Stryer who you were
21 talking with who recruited to Affymax?

22 A. Yes, it is.

23 Q. And when was -- if we could, this
24 patent was issued in 2003?

1 A. Yes.

2 Q. And when does the specification
3 for this application, if you look in the related
4 application data, if we could have that, when
5 was the specification that underlies this patent
6 originally written which you and the other
7 inventors in the patent lawyers?

8 A. I believe it was filed on the
9 March 7th, 1990 date.

10 Q. And the patent includes some ideas
11 around this device that you built?

12 A. Yes, it does.

13 Q. And could we turn to Claim 14 of
14 the patent. And can you describe the elements
15 of this claim that were shown in your, the lab
16 that you built in 1989?

17 MR. KRUPKA: Objection, Your
18 Honor, 702 and motion in limine 1 and 5, I
19 think, whatever it is, respecting interpretation
20 of the claim.

21 MR. MALECEK: Your Honor, he's not
22 interpreting the claims, he's just explaining
23 how the ideas from his lab made their way into
24 the patent.

1 THE COURT: All right. On the
2 basis of the question, I'll sustain the
3 objection.

4 BY MR. MALECEK:

5 Q. Did your lab have a -- did your --
6 excuse me, can you leave the claim up, please.

7 Did your lab have a fluorescence
8 data collection system for storing fluorescence
9 light intentionally?

10 A. Yes, it did.

11 Q. And did it have a detector to
12 detect fluorescence labels?

13 MR. KRUPKA: Objection. With this
14 up on the screen with these questions, it is
15 both leading and again a violation of motion in
16 limine.

17 THE COURT: Objection sustained.

18 BY MR. MALECEK:

19 Q. If we go back to 165A, and could
20 you describe again the components of the
21 instrument that's being shown here?

22 A. Yes. There is a laser light
23 source. A translation stage. A detector to
24 detect light emissions. And the various

EXHIBIT E

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC.,) Trial Volume IV
)
 Plaintiff,)
) C.A. No. 04-901-JJF
v.)
)
ILLUMINA, INC.,)
)
 Defendant.)

Thursday, March 8, 2007
9:30 a.m.
Courtroom 4B

844 King Street
Wilmington, Delaware

BEFORE: THE HONORABLE JOSEPH J. FARNAN, JR.
 United States District Court Judge

APPEARANCES:

MORRIS, NICHOLS, ARSHT & TUNNELL
BY: MARYELLEN NOREIKA, ESQ.
BY: JACK BLUMENFELD, ESQ.

-and-

AFFYMETRIX
BY: MICHAEL J. MALECEK, ESQ.
BY: ANDREA GROSS, ESQ.
BY: DANIEL REED, ESQ.
BY: STEPHEN HOLMES, ESQ.

Counsel for the Plaintiff

1 you broke up the Illumina products into
2 categories and the Affymetrix products into
3 categories. But when you did your lost profits
4 analysis, you never went and said well gee, this
5 1,500 SNP Illumina product, if it wasn't on the
6 market, Affymetrix would have sold this
7 particular product or that particular product
8 which has this particular price or that
9 particular price; correct?

10 A. That's correct. And it turns out
11 that's not feasible upon careful investigation
12 of the facts and long discussions with
13 Affymetrix sales and marketing personnel. The
14 way the system is sold is not with a one-to-one
15 correspondence such as I indicated. There needs
16 to be an overall evaluation of the needs of the
17 researcher and the client to see what mix of
18 types of arrays and types of assays or reagents
19 would be appropriate for that customer's needs.

20 So what I have done is given that
21 the -- there are certain choices of types of
22 Affymetrix products that could be used in
23 various combinations to satisfy different
24 customers needs, so I determined that the most

1 accurate way to do that was to look at the
2 product categories and to estimate the volume of
3 revenue in that product category that Affymetrix
4 would have made if Illumina had not been
5 offering its infringing products in the market.

6 Q. And if I can ask the question
7 perhaps a little different way, you basically
8 didn't bother to figure out which Affymetrix
9 product might be substituted for which Illumina
10 product, you just assumed if Illumina wasn't in
11 the market, Affymetrix would have earned the
12 identical revenue that Illumina actually earned
13 in the market, and you just used that to
14 calculate your lost profits; is that right?

15 A. Well, for each product type, yes,
16 that's right. As I just indicated, that's the
17 only reasonable and feasible thing to do given
18 that there is a variety of product choices and
19 product mixes that could be used in order to
20 provide that customer's needs.

21 Q. Right.

22 And what you're saying is that
23 that depends, I mean, each customer gets to
24 decide for themselves what they need and what

1 they want and they would have to go and figure
2 out which products were now available and decide
3 which, if any, of those they would want to buy;
4 right?

5 A. That's correct. That's the issue
6 about which I had extensive discussions with
7 Affymetrix sales and marketing people.

8 Q. So you didn't determine which
9 product of Affymetrix would be sold; correct,
10 which specific product would be sold correct?

11 A. But there wouldn't be necessarily
12 one product. As I indicated, there might be a
13 variety of products in conjunction with a
14 request for variety of assays or reacts that
15 would solve every researcher's needs.

16 Q. And you didn't bother to get into
17 the details and figure that out?

18 A. As I just indicated, there isn't
19 one answer, there is a number of possible
20 answers.

21 Q. And you didn't find any of the
22 possible answers?

23 A. And economically what I did then
24 in the interest of being conservative was not to

1 with Dr. Walt and Mr. Williams.

2 Q. When did you meet with Dr. Walt
3 and Mr. Williams for this first time?

4 A. It was in the fall of 1997.

5 Q. Did you during this first visit go
6 to see Dr. Walt's laboratory?

7 A. I did. In fact, he showed me his
8 laboratory. He showed me the initial instrument
9 that he had built to read his arrays. He showed
10 me his bead arrays with the little beads at the
11 end of the fiberoptic bundles and showed me the
12 data, the data on DNA analysis, RNA analysis,
13 protein analysis, chemical analysis.

14 Q. What did you do after this first
15 trip out the Boston area and the visit to
16 Dr. Walt's lab?

17 A. I remember becoming very excited
18 because I really thought this technology was
19 interesting. The first step when we run across
20 some technology we think is interesting is to
21 really go out there and talk to experts.

22 So we literally went out there and
23 called and visited dozens and dozens of experts
24 in the area of this technology, talked to them,

1 introduced them to the Walt technology, and
2 really measured their excitement. And what was
3 very rewarding is they were also very excited
4 about this technology.

5 In addition, at the same time we
6 started to look at the competitive landscape.
7 One doesn't compete in competition via arrays,
8 you compete in the marketplace and the
9 marketplaces that we were interested in here was
10 DNA analysis, SNP genotyping, protein analysis
11 and chemical analysis, so we started to look at
12 who the competitors were, what sort of
13 technologies they had and also to see whether
14 this technology would be competitive against
15 those technologies.

16 Q. And what did you do to see whether
17 this technology would be competitive against
18 other technologies?

19 A. Well, analysis of those companies.
20 We looked at all kinds of companies. We looked
21 at Affymetrix. We looked at Applied Biosystems,
22 Amersham, gosh, just lots and lots of companies
23 trying to understand what everybody was doing in
24 this space and trying to understand how this

1 technology would do faced against that
2 technology.

3 And at the end of the day the
4 people got really excited that I spoke to about
5 this technology and comparing it to the
6 competitor's technology, at its heart it's just
7 so fundamentally different.

8 In fact, it solved the problem
9 everybody else was dealing with in the
10 microarray area. Everybody else was either
11 synthesizing an oligo in a very small spot or
12 trying to immobilize an oligo in a very small
13 spot.

14 That creates all kinds of
15 manufacturing problems. What was so interesting
16 and neat about the Walt technologies, you didn't
17 have any of that. You simply had a surface with
18 wells in it and a pool of beads. And you poured
19 the beads over that surface.

20 The beads, just on their own, self
21 assembled into those wells, and you have
22 manufactured your array. So it was
23 fundamentally different from a manufacturing
24 standpoint. It was solving the fundamental

1 problems all these other companies were faced
2 with.

3 Q. Of the companies that you
4 identified in the early days in your initial
5 evaluation of the competitive landscape, are any
6 of those companies competitors of Illumina's
7 today?

8 A. Certainly. So Agilent,
9 Affymetrix, Applied Biosystems, Amersham, which
10 was later acquired by GE. All still are
11 competitors of Illumina.

12 MR. PALS: Your Honor, may I
13 approach Dr. Stuelpnagel.

14 THE COURT: Yes.

15 MR. PALS: Your Honor, I have one copy of
16 Defendant's Exhibit 2103. Would you like this?
17 I can hand it up?

18 THE COURT: You can pass it up.

19 Thank you.

20 BY MR. PALS:

21 Q. Dr. Stuelpnagel, do you recognize
22 Defendant's Exhibit 2103?

23 A. I do.

24 Q. What is this?

1 A. This is the cover of Science
2 Magazine where they've highlighted the David
3 Walt technology,

4 MR. PALS: Mr. Thomas, could you
5 put Defendant's Exhibit 2103 on the screen,
6 please?

7 Thank you.

8 BY MR. PALS:

9 Q. Dr. Stuelpnagel, could you please
10 explain what's shown on the first page of
11 Exhibit 2103.

12 A. So this is an image, what's called
13 a scanning electron microscope. It magnifies
14 the image very much.

15 And what you're seeing here
16 throughout the cover is the bead array. And in
17 the center is a blown-up version of that bead
18 array. What you'll note is there's wells,
19 little pits in this case in the fiberoptic
20 bundle. And there's beads in most of these
21 wells.

22 Not all the wells are filled. And
23 so you'll look and see that there's an empty
24 well up there in the top of that blow-up.

EXHIBIT F

Not Reported in F.Supp.2d

Page 1

Not Reported in F.Supp.2d, 2005 WL 3454283 (D.Del.)

(Cite as: Not Reported in F.Supp.2d)

H

Briefs and Other Related Documents

Advanced Medical Optics, Inc. v. Alcon Laboratories, Inc. D.Del., 2005. Only the Westlaw citation is currently available.

United States District Court, D. Delaware.

ADVANCED MEDICAL OPTICS, INC., a

Delaware corporation, Plaintiff,

v.

ALCON LABORATORIES, INC., a Delaware corporation, and Alcon Manufacturing Ltd, a Texas

Limited Partnership, Defendants.

No. Civ.A. 03-1095-KAJ.

Dec. 16, 2005.

Richard L. Horwitz, David E. Moore, Potter Anderson & Corroon LLP, Wilmington, Delaware, for Plaintiff, A. James Isbester, Gillian W. Thackray, Isbester & Associates, Berkeley, California, of Counsel.

Josy W. Ingersoll, Melanie K. Sharp, Young Conaway Stargatt & Taylor, LLP, Wilmington, Delaware, for Defendants, Robert G. Krupka, Kirkland & Ellis LLP, Los Angeles, California, Linda S. Resh, Kirkland & Ellis LLP, Chicago, Illinois, of Counsel.

MEMORANDUM OPINION

JORDAN, J.

I. INTRODUCTION

*1 American Medical Optics, Inc. ("AMO") brought this patent infringement suit against Alcon Laboratories, Inc. and Alcon Manufacturing Ltd. (collectively, "Alcon"). After a two week trial, the jury found that Alcon had willfully infringed two of AMO's patents, U.S. Patent Nos. 5,700,240 (issued Dec. 23, 1997) (the " '240 patent'") and 6,059,765 (issued May 9, 2000) (the " '765 patent'") and that neither of the patents were invalid. Before me now are several post-trial motions brought by Alcon seeking: (1) Judgment as a Matter of Law of Noninfringement of the Asserted Claims of the '240 Patent or in the Alternative, a New Trial (Docket Item ["D.I."] 337); (2) Judgment

as a Matter of Law of Obviousness of the Asserted Claims of the '240 Patent or in the Alternative, a New Trial (D.I.339); (3) New Trial Based on the Exclusion of a Rebuttal Witness (D.I.343); (4) Judgment as a Matter of Law of Noninfringement of the Asserted Claims of the '765 Patent or in the Alternative, a New Trial (D.I.341); (5) Judgment as a Matter of Law Regarding the Jury's Willfulness Finding or in the Alternative, a New Trial (D.I.335); and (6) Judgment as a Matter of Law on Damages or in the Alternative, a New Trial (D.I.334). Also before me are AMO's Motions for Attorney Fees and Enhanced Damages (D.I.312) and for a Permanent Injunction (D.I.310), and Alcon's Motion for a Stay of Injunction pending appeal (D.I.316). For the reasons set forth herein, I will deny all of Alcon's motions for judgment as a matter of law and a new trial, I will grant AMO's motions for enhanced damages, attorneys' fees, and a permanent injunction, and I will grant Alcon's motion for a stay of injunction pending appeal.

II. BACKGROUND

*1 The background of this case has been set forth in a prior opinion, and will not be set forth in detail here. See Advanced Med. Optics, Inc. v. Alcon Inc., 361 F.Supp.2d 370, 373-75 (D.Del.2005) (claim construction opinion).

*1 Both patents cover apparatuses and methods related to the surgical removal of cataracts using phacoemulsification. "The '240 patent discloses a method and apparatus for varying the ultrasonic power delivered to the surgical handpiece during a phacoemulsification procedure." Id. at 375 (citing the '240 patent). The feature claimed by the '240 patent was referred to at trial as "occlusion mode." (See, e.g., Trial Transcript ["Tr."] at C-205:2-5.) "The '765 patent relates to a fluid management apparatus [and a] ... method for reducing expandable gas in ... a fluid management system." Advanced Med. Optics, 361 F.Supp.2d at 375 (citing the '765 patent).

*1 The parties tried the issues of infringement and invalidity to a jury in a two week trial. At the end of the trial, the jury returned a verdict finding that the ac-

cused Alcon AdvanTec Legacy and Infiniti devices infringed claims 5 and 6 of [the '240 patent](#), that Alcon had induced infringement of claims 1 and 3 of [the '240 patent](#), and that Alcon had contributed to infringement of claims 5 and 6 of [the '240 patent](#) by selling consumables used as part of the Infiniti device. (Tr. at J-8:8-18.) The jury also found that the Infiniti infringed claim 13 of [the '765 patent](#), that Alcon induced infringement of claim 19 of [the '765 patent](#), and that Alcon had contributed to infringement of claim 19 by selling the Infiniti and associated consumables. (Tr. at J-8:19-9:2.) The jury found that the infringement of both patents was willful. (Tr. at J-9:22-25.) Finally, the jury found that none of the asserted claims were invalid. (Tr. at J-9:3-12.) The jury awarded lost profits and reasonable royalties for the infringement of [the '240 patent](#) and reasonable royalties for the infringement of [the '765 patent](#). (Tr. at J-9:13-21.)

III. STANDARD OF REVIEW

*2 Judgment as a matter of law should be granted when “there is no legally sufficient evidentiary basis for a reasonable jury to find for [the prevailing] party.” [Fed.R.Civ.P. 50\(a\)](#). The review of the sufficiency of the evidence must take the record as presented to the jury. [Lightning Lube, Inc. v. Witco Corp.](#), 4 F.3d 1153, 1199 (3d Cir.1993). The proper question is “whether there is evidence upon which a reasonable jury could properly have found its verdict.” [Johnson v. Campbell](#), 332 F.3d 199, 204 (3d Cir.2003) (quoting [Gomez v. Allegheny Health Servs., Inc.](#), 71 F.3d 1079, 1083 (3d Cir.1995)).

*2 “A new trial may be granted to all or any of the parties and on all or part of the issues in an action in which there has been a trial by jury, for any of the reasons for which new trials have heretofore been granted in actions at law in the courts of the United States.” [Fed.R.Civ.P. 59\(a\)](#). The court may order a new trial “where there is insufficient evidence to support the verdict or where the verdict is against the weight of the evidence.” [Greenleaf v. Garlock, Inc.](#), 174 F.3d 352, 365 (3d Cir.1999). The court may also order a new trial if a party has been prejudiced by the improper exclusion of evidence. [Meyers v. Pennypack Woods Home Ownership Ass'n](#), 559 F.2d

[894, 904-05 \(3d Cir.1977\)](#).

IV. DISCUSSION

A. ['240 Patent](#) Infringement

*2 The jury concluded that Alcon's AdvanTec Legacy and Infiniti [phacoemulsification](#) devices infringed claims 1, 3, 5, and 6 of [the '240 patent](#). Alcon asks for judgment as a matter of law that these claims were not infringed, or alternatively, for a new trial. Because the weight of the evidence before the jury supported its conclusion that Alcon's devices infringe, I will deny Alcon's motion.

*2 Alcon first argues that the verdict cannot stand because it is based on expert testimony that failed to apply the correct legal standard for patent infringement. (D.I. 338 at 11-13.) According to Alcon, the infringement analysis by AMO's expert, Harold Walbrink, ignored my construction of the '240 claims. (*Id.*) Alcon argues that Walbrink was required to explain the claim construction language and to testify explicitly in terms of that language. But, while that may be the better method, Alcon points to no case requiring that structural formality. Walbrink's testimony shows that he used the claim construction in his analysis of [the '240 patent](#). (Tr. at C-148:11-13, 150:23-25.) Thus, his expert opinion was based on the claims as construed, and that opinion, coupled with the construed claims given to the jury and the facts presented concerning the accused devices, was more than sufficient to support a finding of infringement based on the correct legal standard.

*2 Alcon next argues that AMO has presented no evidence that any doctor ever used the accused occlusion mode feature on the Alcon devices. (D.I. 338 at 14-20.) As a result, according to Alcon, the jury's conclusions of indirect infringement of method claims 1 and 3 (*id.* at 14-17) and direct infringement as well as contributory infringement of apparatus claims 5 and 6 (*id.* at 17-20) are not supported by any evidence. Alcon's main argument on this point is that AMO's direct evidence (*see* Plaintiff's Trial Exhibit [“PTX”] 278; Tr. at E-6:3-21, E-7:13-22, E-10:6-9) shows doctors using pulse mode, and that mode does not infringe the '240 claims because it merely turns

the power on and off, which is outside the scope of the construed '240 claims. AMO counters that enabling pulse mode should be interpreted as a decrease in power rather than switching the power on and off, an interpretation that has some support in the trial record. (*See, e.g.*, PTX 181 at ALDE015347; PTX 207 at AMO00714 (Alcon operating manuals each describing power reduction resulting from changing either the stroke length or the pulse time).) But even if Alcon infringes only when the devices are used to decrease power in continuous mode, the jury was presented with considerable evidence that the devices are so used.

*3 First, it is uncontested that, when enabled and set by the user, the accused devices all allow the user to vary the power. (Tr. at H-87:1-6, H-88:11-15.) Second, Alcon's operating manuals for the accused devices instruct customers on how to vary the power. (PTX 181 at ALDE015376-77; PTX 207 at AMO00714; Tr. at C-158:16-163:24.) Finally, Alcon advertised its occlusion mode features. (PTX 354; Tr. at F-196:25-197:16, F-219:25-227:6.) This circumstantial evidence supports the conclusion not only that the devices are capable of an infringing mode, but that they were actually used in that mode.

*3 Alcon's pointing to individual doctors who do not use the mode does not require a different conclusion. The circumstantial evidence that doctors did use the accused devices in an infringing mode supports the jury's conclusion of direct infringement of claims 5 and 6 and indirect infringement of claims 1 and 3. The conclusion of contributory infringement of claims 5 and 6 is supported by the sale of handpieces and packs that are elements of the claimed invention and can only be used with the Infiniti device. Alcon's contention that the devices may be used in a noninfringing mode does not overcome the jury's implicit conclusion that the devices are, in fact, used in an infringing mode.

*3 Alcon further argues that AMO provided no evidence that the Alcon devices were used to change the power when the vacuum reached a "particular numeric value," as required by the pertinent claim constructions. (D.I. 338 at 15; D.I. 363 at 16-17.) The cited evidence supporting the conclusion that doctors actu-

ally used the infringing mode overcomes that argument as well.

*3 The jury's verdict was based on the correct legal analysis and was not against the weight of the evidence. Therefore, Alcon's motion for judgment as a matter of law of noninfringement of the asserted '240 claims or, alternatively, for a new trial will be denied.

B. Obviousness of the '240 Claims

*3 The jury concluded that the claims of [the '240 patent](#) were nonobvious in light of the prior art. Alcon asks for judgment as a matter of law that the asserted claims of [the '240 patent](#) are obvious, or alternatively, for a new trial. Because the weight of the evidence before the jury supports its conclusion that Alcon had failed to prove obviousness by clear and convincing evidence, I will deny Alcon's motion.

*3 Alcon brings this motion despite the fact that it failed to make a motion on this issue under [Federal Rule of Civil Procedure 50](#) at the close of the evidence. Opposing AMO's motion on validity (Tr. at H-79:25-80:17), renewing its own motions on infringement (Tr. at H-179:2-3), and attempting to later include "the rebuttal against [its own] direct case" in these renewed motions (Tr. at I-3:18-25) are not sufficient for Alcon to squarely bring its invalidity arguments to the court's attention. By failing to make a [Rule 50](#) motion on the issue at the close of evidence, Alcon waived the right to challenge the verdict on obviousness. *See, e.g., Hopp v. City of Pittsburgh*, 194 F.3d 434, 440 (3d Cir.1999) (finding that a party waived an argument that it failed to include in its pre-verdict [Rule 50](#) motion); *Duro-Last, Inc. v. Custom Seal, Inc.*, 321 F.3d 1098, 1108 (Fed.Cir.2003) (same).

*4 But even if Alcon had preserved the obviousness issue, its motion for judgment as a matter of law would be denied because the jury had before it a record sufficient to conclude that Alcon had failed to prove obviousness of [the '240 patent](#) by clear and convincing evidence. Alcon's obviousness argument depended on combinations of prior art that included a Japanese patent application (the "Shimizu Reference"). AMO presented evidence that the Shimizu

Reference was outside the scope of pertinent prior art because it does not teach a method for [phacoemulsification](#) or for eye surgery (Tr. at B-33:22-34:15, B-34:21-35:15) and may actually be inconsistent with the teaching of [the '240 patent](#) (Tr. at B-36:21-37:2). As a result, the jury could reasonably conclude that persons having ordinary skill in the art would not be motivated to combine the Shimizu Reference with prior art [phacoemulsification](#) systems. That conclusion on its own defeats Alcon's obviousness position.

*4 The alternative motion for a new trial also fails because the weight of the evidence concerning the inapplicability of the Shimizu Reference supports the jury's conclusion that Alcon had failed to prove obviousness by clear and convincing evidence. ^{FN1}

^{FN1}. In this motion on obviousness, Alcon also seeks, in the guise of a motion for a new trial, a reconsideration of my construction of the terms "variably controlling" and "for varying the ultrasonic power" in claims 1 and 5 of [the '240 patent](#). (D.I. 340 at 28-29; D.I. 364 at 19-20.) Whether or not this is a proper issue for this post-trial motion, Alcon's arguments that the '240 prosecution history and the recent decision in [Phillips v. AWH Corp.](#), 415 F.3d 1303 (Fed.Cir.2005) require a change in my construction fail. The construction was based on the language of the claim itself, which stated that the power was "being provided" already and was inconsistent with power being turned on and off in response to the vacuum sensor. [Advanced Med. Optics](#), 361 F.Supp.2d at 382.

*4 Therefore, Alcon's motion for judgment as a matter of law of obviousness of the asserted '240 claims or, alternatively, for a new trial will be denied.

C. Exclusion of Shimizu as a Rebuttal Witness

*4 Alcon seeks a new trial based on the exclusion of Kimiya Shimizu as a rebuttal witness. At trial, Alcon sought to call Shimizu, the author of the eponymous prior art reference used in Alcon's obviousness case, to rebut the testimony of B.J. Barwick, one of the in-

ventors named on [the '240 patent](#). Barwick testified that he had discussed [phacoemulsification](#) and occlusion mode with Shimizu but that Shimizu did not suggest the idea for occlusion mode and was not involved in its development. (Tr. at B-132:22-136:12.) Alcon claims that Shimizu would have contradicted Barwick's testimony and that this was relevant not for the issue of inventorship, but for the issue of obviousness based on the Shimizu Reference. (D.I. 344 at 5-6, 11; D.I. 362 at 7-8, 11.) According to Alcon, Barwick's surprising testimony made Shimizu's testimony necessary, and Shimizu's exclusion prejudiced Alcon to such an extent that a new trial is warranted. (D.I. 344 at 8-11.)

*4 Alcon argues that the exclusion of Shimizu's testimony allowed AMO to argue that the Shimizu Reference was not related to [phacoemulsification](#) and so did not support Alcon's argument that the claims of [the '240 patent](#) were obvious. (*Id.* at 11; D.I. 362 at 7-8.) This argument fails for at least two reasons. First, the relevance of Shimizu's proposed testimony to the obviousness argument is tenuous at best. Alcon argued to the jury that the reference was relevant prior art even without this testimony, and the scope of that reference is necessarily independent of the author's alleged involvement in the development of occlusion mode. Second, even if the testimony were relevant for obviousness, as Alcon argues, nothing in Barwick's testimony suddenly made such testimony necessary. As I said during trial, I do not accept Alcon's argument that it was surprised. (Tr. at F-48:11-23.) Alcon is the one that raised the Shimizu Reference as a critical piece of invalidity evidence, and, if Shimizu's testimony were truly important, then Alcon could and should have included him as a witness in their case in chief, thereby allowing AMO to prepare for his testimony.

*5 Therefore, Alcon's motion for a new trial based on the exclusion of Shimizu's testimony will be denied.

D. ['765 Patent](#) Infringement

*5 The jury concluded that Alcon infringed claims 13 and 19 of [the '765 patent](#). Alcon asks for judgment as a matter of law that these claims were not infringed, or alternatively, for a new trial. Because the weight of

the evidence before the jury supported its conclusion of infringement, I will deny Alcon's motion.

*5 Alcon first argues that the jury had insufficient evidence to conclude that the accused device had an outlet “disposed along the housing longitudinal axis,” as required by claims 13 and 19. (D.I. 342 at 7-11.) I construed that limitation to mean “placed through, on, over, or continuously beside or on a line or course parallel and close to the lengthwise centerline of the housing.” [Advanced Med. Optics](#), 361 F.Supp.2d at 387. According to Alcon, AMO's infringement analysis effectively eliminated that limitation from the claims, by eliminating the need for the outlet to be “close to” the centerline (*id.* at 7-9), and also improperly combined it with the limitation requiring the outlet to be below the pump (*id.* at 9-11). On the first point, the jury was presented with testimony from AMO's expert, Walbrink, that the outlet is one inch away from, and therefore “close to,” the centerline. (Tr. at C-184:5-188:7.) While Alcon's expert disagreed that one inch is “close to” the centerline, the jury was entitled to credit Walbrink's testimony and its own judgment that one inch was close enough to satisfy the claim limitation. On the second point, while Walbrink testified that he believed the Infiniti outlet was positioned where it was so that it was below the pump (Tr. at C-187:21-188:2), he never testified that he concluded that the outlet met the “disposed along” limitation because it was below the pump. Thus, contrary to Alcon's assertion, Walbrink did not improperly combine claim limitations.

*5 Alcon also argues that the jury had insufficient evidence to conclude that the accused device had a structure equivalent to the one disclosed in [the '765 patent](#) as corresponding to the “means for engaging and holding” limitation in claim 13. (D.I. 342 at 11-15.) The structure corresponding to this means-plus-function claim is the frame, hinge mounted to a face, latch, and lip structures found in Figure 4 of [the '765 patent](#). [Advanced Med. Optics, Inc. v. Alcon Inc.](#), 361 F.Supp.2d 404, 412 (D.Del.2005) (summary judgment opinion). Contrary to Alcon's position, Walbrink testified that Alcon's Infiniti device had a structure that was equivalent and interchangeable with the structure disclosed in the patent. (Tr. at C-174:17-21, C-190:11-191:5.)

*5 Alcon contends that Walbrink's testimony is insufficient (D.I. 342 at 13-15) because it fails to provide the “particularized testimony and linking argument” about the insubstantiality of differences required for the jury to decide the issue of infringement under the doctrine of equivalents. [Tex. Instruments Inc. v. Cypress Semiconductor Corp.](#), 90 F.3d 1558, 1566-67 (Fed.Cir.1996); [Lear Siegler, Inc. v. Sealy Mattress Co.](#), 873 F.2d 1422, 1426 (Fed.Cir.1989). Indeed, the jury must receive guidance on a limitation-by-limitation basis as to how an accused product infringes under the doctrine of equivalents. [Tex. Instruments](#), 90 F.3d at 1566-67. However, the issue presented here is literal infringement of a means-plus-function claim. While the necessary analysis may be similar to that under the doctrine of equivalents, the Federal Circuit has yet to impose a heightened evidentiary requirement in the context of means-plus-function structural equivalents. See [Lucent Techs., Inc. v. Newbridge Networks Corp.](#), 168 F.Supp.2d 181, 211-12 (D.Del.2001) (“[M]ore generalized testimony from expert witnesses has been sufficient to establish literal infringement where Section 112, Paragraph 6 limitations are involved.”) (citing [Symbol Techs., Inc. v. Opticon, Inc.](#), 935 F.2d 1569 (Fed.Cir.1991)). Even so, unlike the witnesses in [Texas Instruments](#), 90 F.3d at 1567-68, and [Lear Siegler](#), 873 F.2d at 1426, Walbrink directly addressed the issue of structural equivalence, and his testimony, coupled with the other evidence about the accused devices, was enough to support the jury's conclusion of literal infringement.

*6 Because the jury's infringement verdict was supported by the weight of the evidence, Alcon's motion for judgment as a matter of law of noninfringement of the asserted '765 claims or, alternatively, for a new trial will be denied.

*6 Alcon also seeks a new trial because the conclusion that [the '765 patent](#) reads on the Infiniti device means both that the “disposed along” limitation is indefinite (D.I. 342 at 15-17) and that claims 13 and 19 are anticipated by the Alcon Legacy (*id.* at 17-26). Both arguments fail. First, the fact that Alcon disagrees with the jury's implicit factual determination that the Infiniti outlet was “close to” the centerline does not render the claim term indefinite. Second, as

to anticipation, the jury was presented with evidence that the Legacy lacked a chamber (Tr. at H-153:18-24), that if it did have a chamber it would not be vertically oriented (Tr. at H-154:6-14), and that if it did have a chamber it was not generally circular as required by the claim construction (Tr. at H-154:17-155:7). Again while Alcon's expert disagreed, the jury was entitled to credit this testimony. Because the jury's conclusion does not go against the weight of the evidence, Alcon's motion for a new trial on indefiniteness and anticipation will be denied. ^{FN2}

^{FN2} As for [the '240 patent](#), Alcon seeks, in the guise of a motion for a new trial, a reconsideration of my construction of the term "disposed along." (D.I. 342 at 29-30.) Again, Alcon fails to show that the recent decision in [Phillips v. AWH Corp.](#), 415 F.3d 1303 (Fed.Cir.2005) made my construction incorrect as a matter of law. [Advanced Med. Optics](#), 361 F.Supp.2d at 387-90.

E. Willfulness

*6 The jury found that Alcon had willfully infringed the '240 and ['765 patents](#). Alcon asks for judgment as a matter of law that its infringement was not willful, or, in the alternative, for a new trial. Because the jury's decision on willfulness was supported by the weight of clear and convincing evidence, I will deny Alcon's motion.

1. The ['240 Patent](#)

*6 For [the '240 patent](#), Alcon argues that it discovered the patent on its own, and obtained opinions from in-house and outside counsel that the patent was invalid before it implemented occlusion mode on its machines. (D.I. 336 at 9-10.) However, a finding of willfulness is based on the totality of the circumstances, and an opinion from counsel is not an automatic shield. [Comark Communications, Inc. v. Harris Corp.](#), 156 F.3d 1182, 1190-91 (Fed.Cir.1998). Here, the jury was presented with clear and convincing evidence that Alcon intentionally copied the occlusion mode from AMO's Sovereign machine, that the opinions of counsel were inadequate, and that Alcon did not rely on the opinions.

*6 Before it introduced occlusion mode on its machines, Alcon had access both to [the '240 patent](#) (Tr. at E-81:21-23, H-85:5-6) and to an AMO Sovereign that it received through a third party (Tr. at D-25:3-29:17). Alcon prepared an extensive report on the Sovereign, including the implementation of occlusion mode. (PTX 127 at 4.) While Alcon argues that it made this report on the Sovereign occlusion mode only after receiving the invalidity opinion from outside counsel (D.I. 336 at 16), it is still evidence to support the jury's conclusion that infringement was willful.

*6 Concerning the invalidity opinions, AMO presented evidence that the lawyers' reliance on the Shimizu Reference was not only incorrect but also incompetent because the reference was not in the relevant field (Tr. at E-103-05, G-21-23, G-60-61), and that Alcon did not rely on the opinion of outside counsel because it continued its development efforts after learning of [the '240 patent](#) but before the opinion letter was received (PTX 46; PTX 94). On the latter point, while Alcon's in-house counsel testified that he knew what the outside counsel's opinion would be before the letter was formally written (Tr. at F-241:2-24), the jury was entitled to discredit his testimony. Even with that offered explanation, however, the evidence of continuing work on occlusion mode supports the conclusion that Alcon was bent on copying that patented feature and did not actually rely on the opinion of counsel concerning [the '240 patent](#).

2. The ['765 Patent](#)

*7 For [the '765 patent](#), Alcon argues that it learned of [the '765 patent](#) when AMO brought this lawsuit, and it promptly obtained an opinion from outside counsel that its machines did not infringe the patent. (D.I. 336 at 16-18.) But the jury was presented with clear and convincing evidence that Alcon intentionally copied the fluidics system from AMO's Sovereign machine before it sought an opinion letter.

*7 Alcon had access to a Sovereign machine that it received through a third party. (Tr. at D-25:3-29:17.) Alcon tested forty Sovereign tubing packs, which incorporated the fluidics system claimed by [the '765 patent](#), (PTX 132; Tr. at D-58), and photographed the

Sovereign cassette (PTX 132 at 7). Along with the machine, Alcon had access to the Sovereign operator's manual (*see* PTX 127 at ALDE052477; PTX 131 at ALDE052531 (documents reviewed by Alcon engineers that refer to the manual)), and the manual listed the patents covering the Sovereign, which included [the '765 patent](#) (Tr. at E-24:18-22). [FN3](#) AMO presented evidence that the design of Alcon's fluidics system changed after Alcon had access to the Sovereign. (Tr. at E-58-59; PTX 124.) All of this occurred before this lawsuit was filed and before Alcon sought an opinion of counsel concerning infringement. Based on all of the evidence, the jury was entitled to conclude that Alcon intentionally copied the Sovereign system, while knowing from the manual that the system was patented.

[FN3](#). While the manual listing is not sufficient to meet the marking requirements of [35 U.S.C. § 287](#), it is sufficient to show notice in support of willfulness. *See Stryker Corp. v. Intermedics Orthopedics, Inc.*, 96 F.3d 1409, 1415 (Fed.Cir.1996) (finding that notice from the Patent Office Official Gazette could support a finding of willfulness).

3. Conclusion

*7 Accordingly, as to both the '240 and ['765 patents](#), the jury's determination of willfulness was supported by evidence that a rational jury could view as clear and convincing. Therefore, Alcon's motion for judgment as a matter of law or, alternatively, for a new trial will be denied.

F. Damages

1. Lost Profits for [the '240 Patent](#)

*7 The jury awarded lost profits for a percentage of the sales of Alcon AdvanTec Legacy and Infiniti [phacoemulsification](#) devices as a remedy for the infringement of [the '240 patent](#). Alcon seeks judgment as a matter of law that AMO is not entitled to any lost profits for infringement of [the '240 patent](#), or, alternatively, for a new trial, because according to Alcon, AMO has failed to establish the absence of acceptable non-infringing substitutes. (D.I. 331 at 8-19.) Because the jury's implicit conclusion on this issue is

supported by the weight of the evidence, Alcon's motion will be denied.

*7 Alcon's argument is based on the alleged availability of an "ultra pulse" feature, which was described at trial as being similar to AMO's technology (Tr. at B-25:10-21). Randall Olson, M.D., testified that because he used a specific AMO feature called "Whitestar," which generated power in short bursts, he did not need to use occlusion mode. (Tr. at B-24:13-24.) According to Alcon, Olson's testimony establishes that Whitestar, and Alcon's own similar ultra pulse, are acceptable non-infringing substitutes for the '240 invention. (D.I. 331 at 9-10.) Alcon also argues that AMO's damages expert, Jonathan Putnam, gave misleading testimony about the behavior of the market because he ignored the impact of ultra pulse and attributed increased sales by Alcon to occlusion mode instead. (*Id.* at 13-19.) These arguments depend on ultra pulse being an acceptable substitute, which in turn depends on whether the market is defined to include any method of reducing injury from wound burn, as Alcon contends, or includes methods of automatically controlling ultrasound power. The jury was presented with testimony from Putnam that doctors who demanded the infringing occlusion mode would only consider products that allowed for automatic control of power, and that the AMO machines were the only such alternative. (Tr. at D-110:24-111:18.) Despite Olson's testimony that he did not use occlusion mode, the jury was entitled to credit Putnam's interpretation of the market, in which, for some percentage of doctors, the only acceptable substitute machines would be those with occlusion mode. Putnam conceded that this would be less than half of all doctors (Tr. at D-111:25-115:19), and so lost profits were requested for only a fraction of Alcon's sales.

*8 Because the jury was entitled to credit Putnam's interpretation of the market and the results of his analysis, Alcon's motion for judgment as a matter of law that lost profits should not be awarded, or, alternatively, for a new trial will be denied.

*8 Alcon also seeks a new trial based on the argument that the jury's award of lost profits depends on implicit findings of demand for occlusion mode and

AMO's capacity to meet such demand and that those findings are against the weight of the evidence. (D.I. 331 at 20-26.) First, on the demand issue, Alcon argues that the sales trends discussed by Putnam do not show any increase due to occlusion mode. (*Id.* at 21-26.) Putnam, of course, disagreed. (Tr. at D-113:17-18.) Moreover, the sales trend is only part of the evidence of demand. Both AMO and Alcon advertised the feature. (PTX 226; PTX 278; PTX 284; PTX 285; PTX 289; PTX 310; Tr. at D-100:16-101:10.) Doctors promoted its use. (Tr. at B-23:2-19, C-207:15-17.) Finally, Alcon surveyed doctors and found that they considered the feature to be useful. (PTX 34.) Thus, the conclusion that there was demand for occlusion mode was not against the weight of the evidence. ^{FN4}

^{FN4} Alcon's assertion that Putnam's testimony on demand was misleading because he did not consider the AMO Diplomax machine was addressed during cross-examination. The jury could permissibly rely on his explanation that he did not consider the Diplomax to be in the relevant market (Tr. at D-180:13-181:23).

*8 Second, on the capacity issue, Alcon contends that AMO would not have been able to make the additional sales for which it received lost profits, because this would have doubled AMO's sales and would have required AMO to sell in markets where it had no sales presence. (D.I. 331 at 26). However, AMO's Chief Marketing Officer testified that AMO had the capacity to make these sales with its current sales force (Tr. at C-252:3-253:5), and Putnam testified similarly (Tr. at D-108:12-18). Again, the conclusion that AMO had sufficient marketing capacity was not against the weight of the evidence.

*8 Accordingly, Alcon's motion for a new trial based on the jury's award of lost profits will be denied.

2. Reasonable Royalty for the '240 and '765 Patents

*8 Alcon also seeks a new trial because the jury's award of reasonable royalty damages for infringement of the '240 and '765 patents is not supported by evidence showing that the royalty base should in-

clude the entire value of the AdvanTec Legacy and Infiniti machines. (D.I. 331 at 27-29.) According to Alcon, the royalty base should be limited to the value of the upgrades that enabled occlusion mode (for [the '240 patent](#)) and the value of the fluidics cassettes (for [the '765 patent](#)) because these are the new features that embody the inventions. (*Id.* at 27.) This argument fails because for both the '240 and '765 patents, the asserted claims cover elements found throughout the [phacoemulsification](#) devices, including, for example, handpieces and pumps. ('240 patent at 7:33-57, 7:62-8:2, 8:18-37; '765 patent at 6:3-27, 6:44-63.) Therefore, the royalty base presented to the jury was proper.

*8 Accordingly, Alcon's motion for a new trial based on the jury's award of reasonable royalties will be denied.

G. Enhanced Damages and Attorneys' Fees

*9 Based largely on the jury's determination of willful infringement, AMO seeks enhanced damages and attorneys' fees. After review, I agree that this is an exceptional case, that the damages award should be trebled, and that reasonable attorneys' fees should be awarded.

*9 In exceptional cases of patent infringement, a court "may increase the damages up to three times." [35 U.S.C. § 284](#). This provision reflects "the tortious nature of patent infringement and the public interest in a stable patent right." [SRI Int'l, Inc. v. Advanced Tech. Labs., Inc.](#), 127 F.3d 1462, 1464 (Fed.Cir.1997). Enhanced damages are appropriate if the "infringer is guilty of conduct upon which increased damages may be based," and if the "totality of the circumstances" supports an enhanced award. [Jurgens v. CBK, Ltd.](#), 80 F.3d 1566, 1570 (Fed.Cir.1996) (citing [Read Corp. v. Portec, Inc.](#), 970 F.2d 816, 826-27 (Fed.Cir.1992)). While the court must decide whether enhanced damages are appropriate, [Brooktree Corp. v. Advanced Micro Devices, Inc.](#), 977 F.2d 1555, 1581 (Fed.Cir.1992), a jury's finding of willful infringement is relevant to that decision, see [Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.](#), 383 F.3d 1337, 1348 (Fed.Cir.2004). Furthermore, "[w]here a jury

has found willful infringement, a district court must provide reasons for refusing to enhance damages [and] ... must take care to avoid second guessing the jury or contradicting its findings.” Applied Med. Res. Corp. v. U.S. Surgical Corp., 967 F.Supp. 861, 863 (E.D.Va.1997) (citing Jurgens, 80 F.3d at 1572-74).

*9 Here, the jury’s conclusion that infringement was willful shows that Alcon was guilty of conduct upon which increased damages may be based. The “totality of the circumstances” may be addressed by considering certain factors suggested by the Federal Circuit in Read, 970 F.2d at 827 (listing nine factors). In this case, I find the most relevant Read factors to be: (1) “whether the infringer deliberately copied the ideas or design of another;” (2) “whether the infringer, when he knew of the other’s patent protection, investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed;” and (3) “defendant’s size and financial condition.” *Id.*

*9 First, as discussed in Section IV.E, AMO presented evidence that Alcon copied the '240 and '765 inventions. Alcon not only had access to AMO’s Sovereign machine (Tr. at D-25-29), it prepared reports on the Sovereign’s operation (PTX 127; PTX 132), photographed the fluidics system (PTX 132 at 7), and changed its own fluidics design after viewing the Sovereign (Tr. at E-58-59; PTX 124). This evidence of copying, which supported the jury’s finding of willfulness, also supports an enhanced damages award.

*9 Second, AMO presented evidence that Alcon’s investigation of the '240 patent was less than complete and competent (Tr. at E-103-05, G-21-23, G-60-61) and that Alcon continued to develop its infringing system before the opinion letter was received (PTX 46; PTX 94). This lack of an appropriate investigation, which again supported the jury’s finding of willfulness, also supports an enhanced damages award.

*10 Third, according to Alcon’s SEC filings for calendar year 2004, Alcon’s sales of cataract surgery products was about \$1.5 billion. (D.I. 313, Ex. 2 at 21.) For four years of infringement, the jury awarded about \$94.8 million. Considering the annual sales of

cataract surgery equipment, which appears in large measure to consist of sales of the infringing devices and consumables (id. at 10, Ex. 2 at 21), an enhanced award is appropriate to deter and punish willful infringement.

*10 Based on the evidence of copying of both the '240 and '765 inventions, the lack of appropriate investigation of the '240 patent, and the amount of Alcon’s phacoemulsification sales, I conclude that the damages award should be trebled. ^{FN5}

^{FN5}. Because of an issue that arose during trial concerning marking under 35 U.S.C. § 287, the parties agreed to a post-trial hearing before the court. For the amount of the judgment, see the accompanying Post-Trial Findings of Fact and Conclusions of Law issued in this matter today.

*10 In exceptional cases of patent infringement, a court may also “award reasonable attorney fees to the prevailing party.” 35 U.S.C. § 285. An award of attorneys’ fees and costs is typical in cases of willful infringement. *See, e.g., Knorr-Bremse*, 383 F.3d at 1347. In fact, a trial court must explain why fees were not awarded “in the face of its express finding of willful infringement.” S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc., 781 F.2d 198, 201 (Fed.Cir.1986). “[T]he Court may consider the factors relevant to an enhanced damages award in determining whether attorneys’ fees should be granted.” nCUBE Corp. v. SeaChange Int’l, Inc., 313 F.Supp.2d 361, 391 (D.Del.2004).

*10 The evidence of willful infringement already noted supports an award of reasonable attorneys’ fees and costs in this case. ^{FN6}

^{FN6}. I have already stated that the fees and costs associated with the hearing on the marking issue will be assessed to Alcon. (Tr. at G-15-16.)

H. Permanent Injunction

*10 After a patent is found to be valid and infringed, the “general rule” is that the court will issue an injunction against future infringement pursuant to 35

U.S.C. § 283, *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1247 (Fed.Cir.1989). The past willful infringement of the '240 and '765 patents shows a likelihood of future harm that justifies a permanent injunction in this case. Therefore, AMO's motion for permanent injunction will be granted. The parties agree that the injunction may only apply to the parties and limited non-parties according to Fed.R.Civ.P. 65(d). (D.I. 315 at 22-23; D.I. 321 at 1.) The injunction will cover not only each of the devices found to infringe the '240 and '765 patents, but also others "not more than colorably different" from those devices. See *Int'l Rectifier Corp. v. IXYS Corp.*, 383 F.3d 1312, 1316 (Fed.Cir.2004). The parties shall confer and, within ten days, submit a form of judgment order giving effect to the foregoing conclusions.

I. Stay of Injunction

***10** Alcon seeks to stay the injunction pending appeal to the extent that it covers future infringement of the '765 patent.^{FN7} In considering whether to grant a stay, the court must apply four factors:

FN7. Because the feature that infringed the '240 patent has been removed from its machines, Alcon does not move for a stay of the injunction to the extent that it covers future infringement of the '240 patent.

***10** (1) whether the stay applicant has made a strong showing that he is likely to succeed on the merits;

***10** (2) whether the applicant will be irreparably injured absent a stay;

***11** (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and

***11** (4) where the public interest lies.

***11** *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 897 F.2d 511, 512 (Fed.Cir.1990). "Each factor ... need not be given equal weight." *Id.* "When harm to the applicant is great enough, a court will not require a strong showing that applicant is likely to succeed on the merits." *Id.* at 513 (citation omitted). Importantly for this case, "provided the other factors militate in movant's favor," a stay is appropriate where the movant can "demonstrate a substantial case

on the merits," even without showing a strong likelihood of success. *Id.* (citation omitted).

***11** Taking the factors in reverse order, Alcon has shown that the public interest strongly favors granting a stay. Alcon's sales of the Infiniti device represent "approximately 75% of the new phacoemulsification machines now sold in the United States." (D.I. 315 at 10, Ex. D at ¶ 3.) If that share of the market cannot be replaced in a timely manner, surgeons and patients will be left without important medical equipment. The evidence at trial showed that AMO certainly could not fill a market-share gap of that magnitude, nor does it appear that any other supplier or combination of suppliers could. Even if AMO or another supplier could immediately step in, Alcon contends that noninfringing safety features of the Infiniti would be forced off the market by an injunction. (*Id.* at 11.) While AMO contends that its Sovereign machine is also safe, it does not contend that it can replace these additional features. In short, it is clear that it will take time for the market to adapt.

***11** On the issue of injury to the nonmoving party, AMO claims that it will be irreparably harmed by a stay because it will lose market share, reputation, and the right to exclusivity protected by the patent laws. (D.I. 325 at 9-10.) However, AMO did not show that it could have made additional sales but for Alcon's infringement of the '765 patent because it conceded that the fluidics system protected by that patent does not drive demand for the Alcon machines. Accordingly, AMO was adequately compensated for past infringement by a reasonable royalty on the infringing devices. I am persuaded that AMO's market share will not likely be damaged by a stay because the demand for the Infiniti devices is not driven by the patented fluidics feature found in AMO's Sovereign. While AMO will lose its right to exclusivity pending appeal and may suffer some injury to its reputation as a company that enforces its patent rights, a temporary stay is not likely to cause irreparable harm.

***11** By contrast, denying the stay will certainly cause Alcon to lose, for some period of time, all of its Infiniti sales, which account for approximately 75% of the sales of new phacoemulsification machines in the United States. (D.I. 315 at 10, Ex. D at ¶ 3.) In 2004,

sales of the Infiniti totaled over \$30 million in the United States and over \$60 million worldwide. (*Id.* at 17, Ex. D at ¶ 8.) Additional revenue would be lost from the associated sales of cassettes and other consumables. (*Id.*) If Alcon were to prevail on appeal, those losses could not be compensated.

*12 Finally, while Alcon has not made a strong showing of likelihood of success on appeal, it has shown that it has a substantial case. Alcon points specifically to the construction of the claim terms “disposed along” and “chamber shape means” and to the lack of evidence supporting infringement. (*Id.* at 5-10.) As AMO notes, these issues have been argued already, and the finding of infringement is based on the jury's factual determinations. (D.I. 325 at 1-8.) But Alcon at least has a substantial case on appeal, and a stay is warranted while the Federal Circuit reviews the many vigorously contested issues in the case.

*12 Because three of the four factors favor Alcon, and because Alcon has shown that it has a substantial case on appeal, Alcon's motion for a stay of injunction to the extent that it covers infringement of [the '765 patent](#) will be granted. In effect, this results in a compulsory license for [the '765 patent](#) while the appeal is pending, because, if Alcon loses its appeal, it will be required to pay reasonable royalty damages on the infringing sales made during that time. Alcon will post a bond in the amount of \$1.8 million, corresponding to one year's royalties for ['765 patent](#) infringement according to AMO's damages expert, [FN8](#) as security during the pendency of the appeal. [FN9](#)

[FN8.](#) The royalty requested by AMO at the trial is an appropriate basis for this bond because the jury awarded 98% of the amount requested for ['765 patent](#) royalties (D.I. 302; Tr. at E-155:23-156:1). See Post-Trial Findings of Fact at ¶¶ 12-13. Thus, the bond value is only slightly greater than the damages award for one year. Also, Alcon itself proposed the bond amount. (D.I. 315 at 20.)

[FN9.](#) AMO did not ask for leave to submit supplemental material in support of its motion for injunction, and so Alcon's Motion to

Strike the submission (D.I.371) will be granted. In any event, AMO's allegations about statements made to Alcon customers would not change my conclusion that a stay is appropriate in this case. AMO's Motion for Post Trial Discovery related to these allegations (D.I.373) will be denied.

V. CONCLUSION

*12 For the reasons set forth herein, I will deny Alcon's Motions for:

*12 (1) Judgment as a Matter of Law of Noninfringement of the Asserted Claims of [the '240 Patent](#) or in the Alternative, a New Trial (D.I.337);

*12 (2) Judgment as a Matter of Law of Obviousness of the Asserted Claims of [the '240 Patent](#) or in the Alternative, a New Trial (D.I.339);

*12 (3) New Trial Based on the Exclusion of a Rebuttal Witness (D.I.343);

*12 (4) Judgment as a Matter of Law of Noninfringement of the Asserted Claims of [the '765 Patent](#) or in the Alternative, a New Trial (D.I.341);

*12 (5) Judgment as a Matter of Law Regarding the Jury's Willfulness Finding or in the Alternative, a New Trial (D.I.335); and

*12 (6) Judgment as a Matter of Law on Damages or in the Alternative, a New Trial (D.I.334).

*12 I will grant AMO's Motions for Attorney Fees and Enhanced Damages (D.I.312) and for a Permanent Injunction (D.I.310). The parties shall confer and, within ten days, submit a form of judgment order for the permanent injunction giving effect to the foregoing conclusions.

*12 I will also grant Alcon's Motion for a Stay of Injunction pending appeal (D.I.316).

*12 Finally, I will grant Alcon's Motion to Strike AMO's Supplemental Submission (D.I.371) and will deny AMO's Motion for Post Trial Discovery (D.I.373). An order will follow.

D.Del.,2005.

Advanced Medical Optics, Inc. v. Alcon Laboratories, Inc.

Not Reported in F.Supp.2d, 2005 WL 3454283 (D.Del.)

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Document (PDF)

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and Affidavit) Alcon's Reply Brief in Support of its Motion for Judgment as A Matter of Law, or in the Alternative A New Trial, on Damages (Sep. 2, 2005) Original Image of this Document (PDF)

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and Affidavit) Alcon's Brief in Support of its Motion for Judgment as a Matter of Law, or in the Alternative, for a New Trial Regarding the Jury's Willfulness Finding (Jul. 22, 2005) Original Image of this Document (PDF)

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Damages (May 6, 2005) Original Image of this Document (PDF)

- [2005 WL 4168147](#) (Verdict, Agreement and Settlement) Joint Proposed form of Special Jury Verdict (May 6, 2005) Original Image of this Document (PDF)
- [2005 WL 4168161](#) (Trial Motion, Memorandum and Affidavit) Plaintiff Amo's Motion to Preclude Testimony of Dr. Kimiya Shimizu (May 2, 2005) Original Image of this Document with Appendix (PDF)
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- [2004 WL 4092553](#) () Videotaped Deposition of Harold J. Walbrink (Oct. 19, 2004)
- [2004 WL 4092556](#) () Deposition of: Alan S. Crandall, M.D. (Oct. 13, 2004)
- [2004 WL 4092551](#) () Deposition of: Dr. Randall J. Olson (Oct. 11, 2004)
- [2004 WL 4092555](#) () Rebuttal By Dr. Randall J. Olson on Behalf of Plaintiff Amo, Inc. in Response to Expert Reports of Dr. Alan Crandall and George Eilers Dated August 23, 2004 (Sep. 21, 2004) Original Image of this Document (PDF)
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- [2003 WL 24903406](#) () Expert Report of George Elders Regarding the Invalidity of U.S. Patent 5,700,240 (2003) Original Image of this Document (PDF)
- [2003 WL 24903407](#) () Rebuttal Report of Hal Walbrink on Behalf of Plaintiff Advanced Medical Optics, Inc. Regarding Validity (2003) Original Image

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END OF DOCUMENT

EXHIBIT G

Not Reported in F.Supp.

Page 1

Not Reported in F.Supp., 1987 WL 54482 (S.D.Tex.), 5 U.S.P.Q.2d 1841

(Cite as: Not Reported in F.Supp.)

C

Creative Pioneer Products Corp. v. K Mart Corp.S.D.Tex.,1987.

United States District Court, S.D. Texas, Houston Division.

CREATIVE PIONEER PRODUCTS CORPORATION and Roberto Casadio, Plaintiffs
v.

K MART CORPORATION, Defendant

CIV. A. No. H-83-4137.

July 10, 1987.

MEMORANDUM AND ORDER ON DAMAGES
CALVIN BOTLEY, United States Magistrate.

*1 This is a patent infringement action brought by Creative Pioneer Products Corporation ("Creative") against the K mart Corporation ("K mart") for infringing its patent on its wire stripping tool. Roberto Casadio waived his claims for damages, therefore, Creative Pioneer Products Corporation is the sole Plaintiff claiming damages in this cause. Judgment on the issue of liability was entered in favor of the Plaintiffs on August 13, 1986, by United States District Judge James DeAnda. On June 22, 1987, the parties executed a consent to proceed before the United States Magistrate, and on June 22, and 23, 1987, the trial continued on the issue of Creative's damages pursuant to [35 U.S.C. § 281](#), *et. seq.*

*1 The following are the Court's Findings of Fact and Conclusions of Law together with the Admissions of Fact and Stipulations of the Parties set forth below for purposes of clarity, and the Court's rulings on pre-trial motions.

*1 It is ORDERED that the Defendant's Motion to Strike Plaintiffs' Amended Proposed Findings of Fact and Conclusions of Law and Memorandum of Law on Damages is GRANTED.

ADMISSIONS OF FACT

*1 1. In March, 1982, K mart Corporation ("K mart") requested a patent search to be conducted to determine if the wire stripper which it proposed to purchase was covered by any issued United States patent.

*1 2. In May, 1982, K mart's patent search showed no United States patents covering the wire stripper design.

*1 3. In October, 1982, K mart ordered 50,208 units of Model 82-20-78 wire stripper from Four Star International Trading Co. of Taiwan to be delivered in three shipments of 20,064, 15,072 and 15,072 units, respectively. The shipments were scheduled for February 1, 1983, March 1, 1983, and April 1, 1983.

*1 4. In October, 1982, K mart ordered 20,064 units of Model 61-44-93 wire strippers scheduled for shipment by December 30, 1982. On or before January 3, 1983, K mart ordered an additional 20,064, Model 61-44-93, wire strippers scheduled for shipment by March 31, 1983.

*1 5. On January 4, 1983, [United States Patent No. 4,333,730](#), the patent in suit, was issued by the United States Patent and Trademark Office to Roberto Casadio.

*1 6. By telex, dated March 17, 1983, from K mart's Taiwan office, K mart's International Headquarters in Troy, Michigan, was advised of a notice in a Taiwan newspaper referring to [United States Patent No. 4,366,730](#) as covering wire strippers.

*1 7. K mart immediately conducted an investigation, and in March, 1983, obtained a copy of the patent in suit showing the inventor as Roberto Casadio.

*1 8. K mart conducted a further investigation to attempt to obtain the identity of any United States assignee, but in early April, 1983, discovered that there were no records in the United States Patent Office relating to any such assignment.

*1 9. K mart Corporation imported 60,192 infringing tools into the United States in 1983.

*1 10. These infringing tools began to appear in the retail stores of K mart in approximately March or April of 1983.

*2 11. K mart knew of the existence of [United States](#)

[Patent No. 4.366.730](#) as of the end of March, 1983.

*2 12. In April, 1983, K mart decided on its own initiative to discontinue importation of the wire strippers in question rather than to conduct a patent validity investigation at that time. K mart also decided to cancel and did cancel all outstanding orders for importation of wire strippers that had not yet entered its commercial distribution network. More specifically, K mart was able to cancel and did cancel its two outstanding orders for 15,072 units each of the Model 82-20-78 wire stripper, for a total cancellation of 30,144 wire strippers, thus K mart imported only 60,192 infringing wire strippers of the 90,336 units that had originally been ordered.

*2 13. Creative did not charge K mart with infringement of the patent in suit until July 15, 1983, when the Complaint and Summons were served on K mart.

*2 14. Creative ceased to be the exclusive sublicensee of the patent in suit as of June 22, 1984.

*2 15. K mart never published any advertisements advertising the infringing wire strippers.

*2 16. The packaging for the patented tool was marked with the designation "USA [Patent 4366730](#)" commencing April 1, 1983, but no patent marking was placed directly on the wire strippers.

*2 17. K mart received the Original Complaint in this lawsuit on July 15, 1983.

*2 18. K mart never received an opinion letter from outside counsel as to the invalidity and/or infringement of [United States Patent No. 4.366.730](#).

*2 19. K mart continued to sell the tool after learning of the existence of [United States Patent No. 4.366.730](#).

*2 20. K mart issued no orders directing the removal of the infringing tools from the retail shelves prior to September 3, 1986.

*2 21. K mart discontinued importation of the infringing tools on or prior to April of 1983 and cancelled all outstanding orders for further importation.

STIPULATIONS

*2 1. Plaintiff, Roberto Casadio, stipulates that he waives all claims to damages.

*2 2. Defendant K mart stipulates that a simple prejudgment interest rate of ten (10%) percent should apply to any prejudgment interest awarded on compensatory damages; and Plaintiff's attorney fees have been \$45,000.00.

*2 3. Creative and K mart stipulate that Creative reduces its claim for damages and other relief by 9,748 wire stripping tools, representing wire stripping tools sold or retained by K mart after June 22, 1984, thereby reducing Creative's claim for damages and other relief to 50,444 wire stripping tools.

FINDINGS OF FACT

*2 1. In November of 1982 Creative Pioneer Products Corporation was formed by Jack K. Rumsey, its president, to market, distribute, and sell the wire strippers which are the subject of this patent infringement suit.

*2 2. The wire strippers were invented by Roberto Casadio, who granted an exclusive license to Yu Yuan Machinery Industrial Company, Ltd. of Taiwan to manufacture and sell the patented tool at a royalty of 10% on all sales.

*3 3. Casadio granted another exclusive license to Leslie M. Matherne d/b/a World Wide Imports on December 12, 1982, giving him exclusive rights to the patent in the United States for a royalty of 10% on the purchase value of all units. Matherne purchased the patented tool at a price of \$1.65 per unit from Yu Yuan Machinery.

*3 4. On December 28, 1982, Matherne granted an exclusive sublicense to Creative to market and sell the product at an agreed royalty of 9% of Creative's gross sales. Creative's President, Jack Rumsey, believed that he was obligated to purchase his tools only from Matherne although the sublicense agreement did not contain such a provision. Creative went into the business of distributing the patented tool in December, 1982. No royalties were paid to Matherne. Instead, the two parties by their conduct entered into

a contract of wholesaler and distributor, and Plaintiff purchased his strippers at a cost of \$4.00 per unit from World Wide Imports.

*3 5. On January 24, 1983, Plaintiff was selling the wire strippers at \$6.50 to \$8.85 per unit depending on the volume sold. In March, 1983, Plaintiff was selling his tools to distributors for \$4.30 to \$4.68 and purchasing them at \$3.25 per unit. In March, 1983, Plaintiff lowered the price of his wire strippers after finding out that Cable Electric was selling the Snapit brand stripper, an infringing product, at \$5.95 per unit. In March, 1983, before K mart entered the market, the average selling price of Creative's product was \$4.53 per tool and it was purchasing it at \$4.00 per tool. It was shortly thereafter that its purchase price was reduced by agreement to \$3.25, yielding a profit of twelve percent between his cost and selling price, excluding expenses.

*3 6. Sometime in early 1983, Rumsey was advised by one of his agents, Cory, that K mart was selling an infringing tool in its retail stores for approximately \$4.97.

*3 7. By letter dated April 26, 1983, and with an enclosed package containing the patented tool, Rumsey offered to sell the tool to K mart. The package in which the tool was wrapped was marked "U.S.A. [Patent 4366730](#)". K mart did not reply to that letter.

*3 8. Until that time, there were many other infringers on the market, but their price was higher and Creative negotiated with them to either cease infringing or to purchase the tool from Creative.

*3 9. In late March or early April, 1983, after K mart began to sell the tool, Creative continued to have competition from other infringers and subsequently negotiated various settlements with them whereby Creative received between \$1.00 and \$1.50 per unit in settlement of threatened or pending litigation and secured agreements whereby the infringers agreed to stop purchasing and selling infringing tools, or whereby they would sell the remaining tools on hand at no less than a stated price.

*3 10. In September and October, 1983, Creative sustained drastically reduced sales because other com-

panies, not including K mart, who were offering the tool at a cheaper price, were infringing Creative's product by advertising it in fliers.

*4 11. Creative's gross sales for the year ending December 31, 1983, were \$903,127; cost of goods purchased was \$657,483; and expenses were \$242,440. The 1983 financial statement included the period of time when many infringers were invading the market, depressing Creative's prices. The average selling price of Creative's product for the year 1983 was \$4.36 per unit, \$.17 less than the average selling price in March, 1983.

*4 12. The average cost of each unit purchased by Creative in 1983 was \$3.17 per unit. Creative's net profit averaged out to \$.02 per unit, and average profit per unit deducting variable expenses was only \$.23 per unit in 1983.

*4 13. When Creative first started to sell the wire strippers in December, 1982, the product, manufactured by Roberto Casadio, was marked "MANUFACTURED BY ELCONTROL-ITALY PAT.-PAT. APPL. IN I-UK-WG-F-USA-ROC-J." This legend was embossed on the moulded plastic handle of the tool. The wire strippers sold by Creative were marked with millimeter and quarter inch calibrations embossed on the moulded plastic handle. The patent was issued on January 4, 1983. Between January, 1983 and June, 1984 there was no notice of a patent marked on the product. Starting April 1, 1983, only the package was marked, "U.S.A. [Patent 4366730](#)." In 1985, the tool itself was marked with a notice of the patent number. It would have been a simple matter to mark the patented tools with notice of the patent.

*4 14. After Creative's sales declined, Matherne revoked the exclusive license he had granted to Creative Pioneer Products and became the exclusive sales agent in the United States. Creative's license terminated on June 22, 1984.

*4 15. Leslie Matherne also negotiated various settlements with parties selling infringing tools, such settlements averaging between \$1.00 and \$1.50 for each infringing tool.

*4 16. K mart had 2,068 retail stores at the time of the events of this suit, and ten distribution centers serving those stores. K mart imported 60,192 wire strippers in 1983. Orders for these strippers were placed in October and December, 1982. As of June 22, 1984, 9,748 strippers remained unsold, leaving 50,444 infringing tools sold by K mart during the period of time that Creative held the license to sell the tools. K mart sold approximately 7,088 tools before July 15, 1983, the date they were served with notice of this suit. K mart purchased the units at \$1.44 per unit and sold them at \$4.97 in their retail stores. K mart never approached Creative, Leslie Matherne or Roberto Casadio to obtain a license to sell the tools.

*4 17. In May, 1982, a patent investigation was undertaken by K mart, at the request of a K mart Import Department executive who was interested in purchasing the wire stripper, to determine if there was a patent on that tool because there was information that a patent was pending on the wire stripping tool. K mart's in-house trademark and patent counsel, David Haarz, referred the request to John Pacocha of the firm of Alexander & Zalewa, of Chicago, Illinois, outside counsel retained by K mart in connection with K mart's patent matters and patent litigation. The product sent to Pacocha had the same structure as the product which K mart ultimately purchased which was found to infringe Creative's tool. Pacocha conducted a patent search and sent David Haarz a report on or about May 7, 1982, indicating no patent was discovered in connection with the product being investigated which was the Snapit wire stripping tool made by Cable Electric. The Snapit tool was the subject of a settlement of an infringement dispute between Cable Electric and Creative. The report from Pacocha also indicated that if a patent were to issue, its validity would be questionable. The report included copies of various patents. Due to the strict secrecy maintained on patent applications, however, it was not possible to obtain copies of documents and applications of patents pending or even to determine if a patent application was pending on that product. David Haarz then advised the buyer in K mart's Import Department that there was no patent issued on the tool and that they could purchase it. Orders for

90,000 wire stripping tools were then placed in October and December, 1982.

*5 18. In March, 1983, K mart's Import Department received a telex, dated March 17, 1983, from K mart's Taiwan office indicating that a local newspaper had reported a patent on a wire stripper, and requested Haarz to investigate that announcement. Haarz then contacted James Zalewa of Alexander and Zalewa and requested him to obtain a copy of the patent referenced in the telex and to determine who was the owner of the patent. At that time no other infringement and validity investigation was undertaken. Zalewa sent Haarz a copy of the patent and then telephoned Haarz to advise him of the ownership of the patent by Casadio. The call was followed up with a letter dated April 11, 1983, confirming the information regarding the ownership of the patent, and advising Haarz that no record of any assignment of the patent by the patent owner existed.

*5 19. K mart's counsel, including Haarz, did not attempt to contact World Wide Imports, the licensee referenced in the cable message, or Roberto Casadio, the owner of the patent.

*5 20. David Haarz then recommended that, in light of the patent, the buyer cancel all outstanding orders for the wire strippers, amounting to cancellation of 30,144 wire stripping tools. As to the orders which had already been shipped, no action was taken.

*5 21. David Haarz was served with the instant lawsuit on July 15, 1983. He referred the complaint to the firm of Alexander and Zalewa and requested that Zalewa obtain the file history of the patent on which suit was brought and search for existence of prior art.

*5 22. In the summer and fall of 1983, Haarz and Zalewa had several telephone conversations after the search was completed. Zalewa and Haarz concluded that if the patent was valid it was infringed and that K mart would not contest the charge of infringement. Zalewa advised that the search further supported Pacocha's original opinion on the invalidity of the patent on the basis of prior art. Zalewa and Haarz felt that prior patents belonging to Utica Tool and some German patents could impact on the validity of the

patent in this case. Haarz instructed Zalewa to defend on the basis of invalidity and to concede infringement if the patent was held valid. No written opinion was sought by K mart on the invalidity of the patent. Haarz' opinion regarding the invalidity of the patent was unchanged until the Court ruled that the patent was valid.

CONCLUSIONS OF LAW

*5 Creative seeks damages for the infringement of 50,444 tools at \$1.83 per tool, plus prejudgment interest at 10% and attorney fees of \$45,000. K mart stipulates to the 10% prejudgment interest rate, but contends that the number of infringing tools is only 43,356, and the award should be only \$.23 per tool. K mart also contests the award of attorney fees, but stipulates that should the Court make an award of attorney fees, Creative should be awarded \$45,000.00.

*5 [Section 287 of Title 35, United States Code](#), limits the recovery of damages for patent infringement to the time period commencing with either the use of a proper patent notice, notice of infringement, or filing of an action for infringement. The statute provides that a proper patent notice may be given either by fixing the notice of the patent and number on the article, or when from the character of the article this cannot be done, by fixing it to the package where one or more of them is contained a label containing a like notice.

*6 The wire stripping tool in the instant case was not marked with notice of the patent. Instead, commencing April 1, 1983, the patent notice was placed on the packaging. However, the character of the product was such that a marking on the product would have been a relatively simple matter. Therefore, marking the packaging of Creative's wire strippers is insufficient to commence the period for the recovery of damages. [Wayne Gossard Corp. v. Sondra, Inc.](#), 434 F.Supp. 1340 (E.D.Pa., 1977), *aff'd*, 579 F.2d. 41 (3rd Cir.1978).

*6 Although K mart had notice of the patent, K mart's attorneys believed in good faith that the patent was invalid on the basis of prior art and thus not infringed. Creative never gave K mart notice of in-

fringement of their patent as contemplated by [§ 287](#). Therefore, the period of accounting this case begins on July 8, 1983, upon filing of suit.

*6 [Section 284 of Title 35, United States Code](#), provides that the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.

*6 Royalty damages must be calculated on the basis of 60,192 infringing tools imported, less 9,748 tools on hand at the time Plaintiff's license was terminated, less 7,088 tools sold prior to the date of effective notice of patent infringement, for a total of 43,356 tools.

*6 The reasonable royalty assessed by the court may be based upon an established royalty, if there is one, or if not, upon a hypothetical royalty resulting from arm's length negotiations between a willing licensor and a willing licensee. [Hanson v. Alpine Ski Area Inc.](#), 718 F.2d. 1075, 1078, 219 USPQ 679, 682 (Fed.Cir.1983). When an established royalty for a patented product exists it is usually the best measure of reasonable compensation. [Tektronix v. United States](#), 552 F.2d. 343, 347, (Ct.Cl.1977), *cert. denied*, 439 U.S. 1048 (1978). For a royalty to be established it must be paid by such a number of persons as to indicate a general acquiescence in its reasonableness by those who have occasion to use the invention. [Rude v. Westcott](#), 130 U.S. 152, 165 (1889).

*6 Royalties paid under the threat of suit or in settlement of claims for past infringement cannot be taken as a standard to measure a reasonable royalty. [Rude v. Westcott](#), 130 U.S. 152 (1889); [Panduit Corp. v. Stahl Bros. Fibreworks](#), 575 F.2d. 1152 (6th Cir.1978); [Faulkner v. Gibbs](#), 199 F.2d. 635, 638 (9th Cir.1952).

*6 Creative's profits may be considered only if Creative can show that but for the infringer's sales it would have sold those products. [Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.](#), 739 F.2d. 604 (Fed.Cir.), *cert. denied*, 469 U.S. 1038 (1984); *See also Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d. 549 (Fed.Cir.1984). This, the Plaintiff did not establish, especially in light of the numbers of other infringers

of his product.

*7 Additionally, the Court may look to the infringer's profits and consider them in assessing a royalty. Kori Corp. v. Wilco Marsh Buggies and Draglines, Inc., 761 F.2d. 649 (Fed.Cir.), cert. denied, 106 S.Ct. 230 (1985). K mart, however, provided no evidence of its net profits on the strippers. In its memorandum of law K mart gratuitously suggests that its net income from sales of the wire strippers was no more than \$.98 per tool. Creative's rate of profits with deductions for variable expenses yields a royalty rate which is less than the reasonable royalty rate based on established rates of 9 to 10 percent of gross sales, and which is somewhat depressed by competition from infringing products sold by K mart and others.

*7 The Court therefore concludes that a reasonable royalty should be ten percent of K mart's gross sales, at its retail price of \$4.97 which averages \$.50 per tool. Based on a total of 43,356 tools, royalties of \$21,679.00 are awarded to Creative Pioneer Products Corporation.

*7 Section 284 of Title 35, United States Code, provides that the Court may increase the damages up to three times the amount assessed. The assessment of increased damages is discretionary. American Original Corp. v. Jenkins Food Corp., 774 F.2d. 459 (Fed.Cir.1985). White v. Mar-Bel Inc., 509 F.2d. 287 (5th Cir.1975). This Court must consider whether such an award of increased damages is justified in this case. Three factors are to be considered in determining whether to make such an award: (1) whether the infringement was wilful or deliberate; (2) whether the infringer had a good faith belief that the patent was invalid; and (3) the party's conduct of the litigation. Lam Inc. v. Johns-Manville Corp., 668 F.2d. 462 (10th Cir.), cert. denied, 456 U.S. 1007 (1982). In deciding whether to enter an award of increased damages the court must look at the totality of the circumstances. American Original Corp. v. Jenkins Food Corp., 774 F.2d. 459 (Fed.Cir.1985). Additionally, wilful and wanton infringement must be established by clear and convincing evidence. Shatterproof Glass Corp. v. Libbey-Owens Ford Company, 758 F.2d. 613, 628 (Fed.Cir.1985). Wilful infringement may be found by the failure of the defend-

ant to establish a good faith reliance upon an authoritative opinion of invalidity. Underwater Devices, Inc. v. Morrison-Knudsen Co., 717 F.2d. 1380, 1389 (Fed.Cir.1983).

*7 One with actual notice of another's patent rights has an affirmative duty to exercise due care to determine whether or not he is infringing. Included is the duty to seek legal advice before initiating infringing activity. Ralston Purina v. Far-Mar Co. Inc., 772 F.2d. 1570 (Fed.Cir.1985).

*7 Based on the evidence adduced at Plaintiff's damage hearing, and upon a review of the record as a whole, this court does not find clear and convincing evidence of wilful infringement in this case. The action was prosecuted with a minimum of motion practice and discovery disputes. Defendant ordered all the infringing tools before issuance of the patent. Orders not shipped were cancelled after defendant received notice of the patent from Taiwan. Defendant sought the advice of patent counsel who advised that the patent may be invalid. Therefore, this Court declines to assess and enter an award of increased damages and Plaintiff's request therefor is DENIED.

*8 Section 285 of Title 35, United States Code, provides that in exceptional cases the court may award reasonable attorney fees to the prevailing party. Such an award is a matter within the discretion of the Court. Faulkner v. Baldwin Piano and Organ Co., 561 F.2d. 677 (7th Cir.1977), cert. denied, 435 U.S. 905 (1978). Generally, attorneys' fees are not awarded except to prevent gross injustice and where fraud and wrongdoing are clearly proved, Maurice Garbell, Inc. v. Boeing Co., 546 F.2d. 297 (9th Cir.1976), cert. denied, 431 U.S. 955 (1977); Milgo Electronic Corp. v. United Business Communications, Inc., 623 F.2d. 645 (10th Cir.), cert. denied, 449 U.S. 1066 (1980), or in circumstances where the party against whom such an award is assessed is guilty of inequitable conduct during the litigation. Reactive Metals and Alloys Corp. v. ESM, Inc., 769 F.2d. 1578 (Fed.Cir.1985). Proof of exceptional circumstances must be made by clear and convincing evidence. *Id.*

*8 Based on the evidence adduced in this case, and for the reasons stated above with respect to the as-

essment of increased damages, the court finds that an award of attorney's fees is not justified and Plaintiff's claim for attorney's fees is DENIED.

*8 [Section 284 of Title 35, United States Code](#), provides that the Court may award interest and costs to the claimant. A claimant prevailing in a patent infringement suit should be awarded prejudgment interest where necessary to afford the Plaintiff full compensation for infringement. [General Motors Corp. v. Devex Corp., 461 U.S. 648 \(1983\)](#). The Court finds that full and fair compensation to the Plaintiff requires that Plaintiff be awarded prejudgment interest at the stipulated rate of 10% simple interest per annum for four years (July, 1983 through July, 1987) on the amount of \$21,679.00 or \$8,671.60.

*8 Therefore, it is ORDERED that Creative is awarded as damages for K mart's infringement \$21,679 as compensatory damages, \$8,671.60 prejudgment interest and all costs are taxed against K mart pursuant to [28 U.S.C. § 1920](#), *et seq.*

*8 The Clerk will enter this Memorandum and Order and provide all parties with a true copy.

FINAL JUDGMENT

*8 In accordance with the Findings and Conclusions made by the Court and Orders entered on August 13, 1986, and July 10, 1987, Judgment is entered in favor of the Plaintiff, Creative Pioneer Products, Corporation for \$30,350 plus all costs pursuant to [28 U.S.C. § 1920](#), *et. seq.*

*8 This is a Final Judgment.

*8 The Clerk will enter this Final Judgment and provide all parties with a true copy.

S.D.Tex.,1987.

Creative Pioneer Products Corp. v. K Mart Corp.
Not Reported in F.Supp., 1987 WL 54482
(S.D.Tex.), 5 U.S.P.Q.2d 1841

END OF DOCUMENT

EXHIBIT H

Not Reported in F.Supp.2d

Page 1

Not Reported in F.Supp.2d, 2004 WL 2851955 (D.N.J.)

(Cite as: **Not Reported in F.Supp.2d**)

H

Briefs and Other Related Documents

Metrologic Instruments, Inc. v. PSC, Inc. D.N.J., 2004. Only the Westlaw citation is currently available.

United States District Court, D. New Jersey.

METROLOGIC INSTRUMENTS, INC., Plaintiff,

v.

PSC, INC., Defendant.

Civil Action No. 99-4876 (JBS).

Dec. 13, 2004.

Edwin Choicey, Esq., Riker, Danzig, Scherer, Hyland & Perretti, LLP, Morristown, NJ, and [Dennis J. Mondolino, Esq.](#), [Michael F. Hurley, Esq.](#), Morgan, Lewis & Bockius, LLP, New York, NY, for Plaintiff Metrologic Instruments, Inc.

[Joel Schneider, Esq.](#), Archer & Greiner, P.C., Hadonfield, NJ, and [James Shalek, Esq.](#), [Robert Mayer, Esq.](#), Proskauer Rose LLP, New York, NY, for Defendant PSC, Inc.

OPINION

[SIMANDLE](#), District Judge.

*1 This matter comes before the Court upon Plaintiff Metrologic's motion for summary judgment of infringement of Claims 8 and 10 of [U.S. Patent No. 5,081,342 \(the 342 patent\)](#) and Claims 1, 6 and 28 of [U.S. Patent No. 5,343,027 \(the 027 patent\)](#). Also before the Court are Defendant PSC Inc.'s motion for partial summary judgment of noninfringement and invalidity of [U.S. Patent No. 5,637,852 \(the 852 patent\)](#) as well as PSC Inc.'s motion for summary judgment under [35 U.S.C. § 287](#) on the [342 patent](#). ^{FN1}

^{FN1}. Plaintiff and Defendant entered a stipulation and order on August 16, 2004 that partial summary judgment could be entered against Metrologic with respect to its claim of PSC's infringement of [U.S. Patent Nos. 5,081,359](#) and [5,789,731](#). The parties also stipulated that PSC's affirmative defenses and counterclaims for invalidity and unenforceability with respect to [U.S. Patent Nos. 5,081,359](#) and [5,789,731](#) are dismissed

without prejudice pursuant to [Fed.R.Civ.P. 41\(a\)\(1\)](#).

I. BACKGROUND

A. Procedural Posture

*1 Metrologic Instruments, Inc. ("Metrologic") brought this action for patent infringement against PSC Inc. ("PSC") on October 12, 1999, alleging that Defendant's products infringed Metrologic's [United States Patent Nos. 5,637,852 \(the 852 patent\)](#), [5,627,359 \(the 359 patent\)](#), [5,789,731 \(the 731 patent\)](#), [5,260,553 \(the 553 patent\)](#), [5,343,027 \(the 027 patent\)](#), [5,686,717 \(the 717 patent\)](#), [5,828,049 \(the 049 patent\)](#), and [5,081,342 \(the 342 patent\)](#). PSC filed a counterclaim, seeking a declaratory judgment of non-infringement and alleging unfair competition under § 43 of the Lanham Act.

*1 This Court held a *Markman* hearing on August 6 and 7, 2002 to construe the claims at issue. After Defendant filed bankruptcy in December 2002, the case was administratively terminated on December 17, 2002. The case was reopened on July 18, 2003, after Defendant emerged from bankruptcy protection. In its lengthy Opinion of August 26, 2003, this Court set forth its construction of the disputed claim limitations in Metrologic's 359, 731, 852, 027, and [342 patents](#). [Metrologic Instruments, Inc. v. PSC, Inc., 2003 WL 22077652 \(D.N.J. Aug. 26, 2003\)](#) ("Markman Decision"). Metrologic filed its motion for reconsideration on an aspect of the decision relating to the multiport [342 patent](#), which this Court denied on May 6, 2004.

*1 The present summary judgment motions were filed and briefed by the parties at the time of the *Markman* hearing. However, PSC's voluntary bankruptcy placed an automatic stay on this action and, by agreement of the parties, the motions were deferred pending the *Markman* Decision. Supplemental briefing was permitted on the present motions and the Court heard oral argument on October 1, 2004.

B. Metrologic's Motion for Partial Summary Judgment of Infringement of Claims 8 and 10 of the [342](#)

Patent and Claims 1, 6 and 28 of the 027 Patent

*1 Metrologic seeks partial summary judgment as to its assertion that PSC's Magellan, Magellan SL, HS1250, and VS1200 products (collectively, the "Magellan Devices") infringe claims 8 and 10 of the 342 patent and claims 1, 6, and 28 of the 027 patent.

*1 In the original summary judgment papers submitted to the Court, Metrologic identified ten limitations in the 342 patent claims: Limitation 1-5 within the preamble of independent claim 5, Limitations 6-8 within the body of claim 5, and Limitation 9 and 10 within the bodies of dependent claims 8 and 10, respectively. Metrologic asserted that the preamble contains affirmative limitations, which PSC disputed, and the parties disputed the meaning of Limitation 6-9. This Court determined in its *Markman* Decision that the preamble did not contain affirmative limitations. Moreover, this Court held that Limitation 8 was not a limitation and declined to construe it. This Court thus construed only Limitations 6, 7, and 9 of the 342 patent. See *Markman* Decision at *43. Similarly, for the 027 patent, Metrologic identified nine limitations, the meanings of two of which, Limitations 5 and 7, were disputed by the parties. The Court construed these two limitations. ^{FN2} *Id.*

^{FN2}. During claim construction, a court is only obligated to construe disputed claim terms. See United States Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed.Cir.1997), cert. denied, 522 U.S. 950 (1997).

1. Claims 8 and 10 of the 342 Patent

*2 Metrologic asserts that the Magellan Devices infringe claims 8 and 10 of the 342 patent. Claim 8 depends from independent claim 5, and claim 10 depends from claim 8.

*2 The claims recite a device that processes digital input signals, such as signals from bar code scanners. The device accepts at least two digital input signals, such as an input from a high-speed, in-counter (or "slot") scanner and an input from a low-speed, hand-held scanner or light pen. (See 342 patent, 1:51-59.) Each digital input signal has two levels, such as low

and high, representing the bars and spaces (or spaces and bars) on a bar code symbol. The input signals may be transmitted at different frequencies (or bit rates), based on the type of scanner and the resolution of the bar code symbol read. Some bar codes are "low density," such as those printed on a rough material, like cardboard, and others are "high density," such as those printed on a smooth material, like paper, and this will affect the frequency required to detect and process the bar code signal. (See *id.*, 2:10-23.)

*2 The claimed device generates a plurality of predetermined frequencies. It does this by using a clock input 12 to generate a fundamental or reference frequency, e.g., 40 MHz, and then uses a series of dividers (clock divider circuitry 14) to generate frequencies stepping down from the fundamental frequency by successive factors of 2, e.g., 20 MHz, 10 MHz, 5 MHz, 2.5 MHz, 1.25 MHz, 625 kHz, 312 kHz, 156 kHz, 78 kHz, 39 kHz, 19.5 kHz, 9.25 kHz, 4.875 kHz, and 2.44 kHz. (See *id.*, 4:47-50, 9:33-68.) Clock input 12 accepts a number of input signals (which are external to clock input 12) in order to generate the fundamental or reference frequency. The word "predetermined" "refers not to a precise starting frequency determined beforehand, but to the known set of divisions that are applied through the clock divider circuitry 14 each time the device is operated, which creates the plurality of frequencies." *Markman* Decision at *31.

*2 The claimed device measures the time duration of the high and low bar code signal levels using one of the plurality of frequencies previously generated. The device then produces digital data representing the measured time durations. The device measures the time durations by first selecting one of the predetermined clock frequencies using the clock mux ^{FN3} 16, *id.* at *35, then counting the length of the high and low levels using the transition detector 24, the sequencing means 28, and the digitizing counting means 30. *Id.*; (342 patent, 5:16-34.)

^{FN3}. The word "mux" stands for "multiplexer," an electronic device that takes several signals as inputs and selects one of the input signals as an output.

*2 The claimed device also includes a decoder for decoding the bar code signal information. This decoder decodes UPC and EAN bar codes, as well as a wide variety of other codes. (See [342 patent](#), 2:24-33.)

2. Claims 1, 6 and 28 of the [027 Patent](#)

*2 Metrologic asserts that the Magellan Devices also infringe claims 1, 6, and 28 of the [027 patent](#). Claims 1 and 28 are independent; claim 6 depends from claim 1.

*3 The claims recite a device that decodes digital data signals, such as signals from bar code scanners. Each digital data signal has two levels, such as low and high, representing the bars and spaces (or spaces and bars) on a bar code symbol. The device includes at least two data input ports, each of which is connected to a scanner, and each of which receives one of the digital data signals. The digital data signals are connected to a transition detector, which detects transitions from low to high and high to low. Sequencing means 28 and digitizing counting means 30 take the output of the transition detector and produce signal level transition data.

*3 The claimed device measures the time duration of the high and low bar code signal levels and produces digital data relating to the measured time durations. The device measures the time durations by using a fundamental or reference frequency, e.g., the output of clock input 12, and clock divider circuitry 14 to generate a plurality of frequencies. Clock mux 16 selects one of the plurality of frequencies and then counters 50 and 52 are used to count the length of the high and low levels. *Markman* Decision at *40.

*3 The claimed device also includes a controller that controls the operation of the clock mux 16 and the selected frequencies based on the signal level transition data produced by the transition detector. The device further includes a programmable decoder, e.g., programmable processor 26 or fixed program decoder 20, for processing the digital data to produce decoded symbol data representative of the bar code symbol being scanned. *Markman* Decision at *43. Decoded symbol data is transmitted to a host device, e.g., a computer, through a data output port. The device may

be realized as an integrated circuit chip. ([027 patent](#), 20:22-30.)

3. PSC's Accused Devices Relating to the 342 and [027 Patents](#)

*3 “X,” “Y,” and “Z” were code names given to scanner designs that Spectra-Physics (which PSC acquired in 1996) developed beginning in 1993. The “X” became the VS1000/VS1200 models, released in 1994; the “Y” became the HS1250, released in 1995; and the “Z” became the Magellan, also released in 1994 (the Magellan SL was released in 1997). These models share much of the same internal design, but differ by virtue of their different scanning orientations: the VS1200 has a vertical scanning window, the HS1250 has a horizontal scanning window, and the Magellans combine a vertical and horizontal scanning window.

*3 Each of the four accused devices, the Magellan, Magellan SL, VS1200 and HS1250, contain a port for connecting an undecoded hand-held device, which PSC refers to as a “hand-held laser control” (HHLC) port. (See Latimer Dep., Metrologic Ex. 5, p. 160; HS1250 Marketing Brochure, Metrologic Ex. 16, p. 2 (“[p]eripheral port for undecoded handheld scanner”); VS1200 Marketing Brochure, Metrologic Ex. 17, p. 1 (“[p]eripheral port for undecoded scanner”); Magellan Marketing Brochure, Metrologic Ex. 29, p. 2 (“undecoded handheld scanner port”).) The HHLC provides the input for connecting a slower speed hand-held device to the common decoding architecture of the high-speed scanner. (See Actis Dep. I, Metrologic Ex. 4, p. 33:4-8.)

*4 The outputs from the hand-held device and the high-speed device are provided to the DAT II (“D ecoder by [Robert] A ctis and [Andrew] T aussig”) chip to decode barcode data. (See [id.](#)) The DAT II chip is a type of integrated circuit—an “ASIC” or “application specific integrated circuit.” (See Actis Dep. I, Ex. 4, 82:16-23.) The Magellans use three DAT II chips, while the VS1200 and HS1250 each use a single DAT II chip. (See Magellan System Controller Diag. (Drawing 1-0244), Metrologic Ex. 6, p. 5 (PSC 0014699), items U25, U26, and U27; VS1000/VS1200 Mega-Main Diag. (Drawing

1-0249), Metrologic Ex. 7, p. 2 (PSC 0019728), item U7; HS1250 Speaker Main Diag. (Drawing 1-0260), Metrologic Ex. 8, p. 2 (PSC 0019784), item U9). Each of these representative drawings uses the same DAT II chip.

*4 There are several inputs to the DAT II chip. These include “undecoded auxiliary input and standard scanner input.” (Actis Dep I, Metrologic Ex. 4, 79:16-23.) Standard scanner input uses the RTV and STV BAR flip-flop to generate a BAR HS (high speed) signal. (DAT II Theory of Operation, Metrologic Ex. 24, p. 7.) Auxiliary input, which could be a “single video data stream from an alternate scanning device (such as a wand),” can use the BAR LS (low-speed) input to the chip. (*Id.*)

*4 The DAT II chip generates a set of frequencies, which allows the device to “switch[] from a high speed clock for a high performance scanner to a low speed clock for a slower data input from a wand, for example. (*Id.* at 13.) The chip does this by using a clock input circuit to generate a fundamental clock, called “CLK” (“that runs the entire chip,” DAT II Theory of Operation, Ex. 24, p. 13), creating a cleaner version of the fundamental clock called CLOCK0, and then uses a series of flipflop circuits (“ripple counter divider,” *id.*) to generate 16 clock frequencies (labeled CLOCK1-CLOCK 16) stepping down from the fundamental frequency (e.g. 40 MHz) by successive factors of 2.

*4 The DAT II chip “measure[s] and process[es] the relative time differences between bars and spaces in the [bar code] label.” (*Id.* at 3.) The incoming signal from the bar code scanner is “converted into a series of 13 bit binary numbers by counting the number of cycles, of a fixed time base clock, between transitions of the signal (bar code edges)” (*Id.*)

*4 The “fixed time base clock” (INTVL-CLK) is the clock selected from the 16 clock frequencies generated to match the speed of the incoming data from the bar code scanner. (*Id.* at 13 (“INTVL-CLK can be selected, by the scanner controller, ... [which] allows switching from a high speed clock for a high performance scanner to a low speed clock for a slower data input from a wand, for example.”).) INTVL-

CLK is selected using a group of four multiplexers shown in the middle of that DAT II Clock Generation Diagram. (Metrologic Ex. 23, p. 14, col. 4.)

*4 The counting of the 13-bit number is performed in the “front end” circuit. (*See id.* at 6.) This front end circuit includes a transition detector and a counter. The transition detector consists of the “front end state controller [, which] detects bar/space transitions.” (*Id.* at 7.) The counter is a “13 bit parallel load ripple counter.” (*Id.* at 8.)

*5 Also included in the “front end” circuit is a sequencer. Item 28 in the [027 patent](#) and [342 patent](#) is called “sequencing means.” This sequencer is also termed a “control means.”

*5 The DAT II chip also includes two decoders, termed “decoder 1” and “decoder 2.” (*See* DAT II Top Level Block Diagram, Metrologic Ex. 23, p. 1 (PSC0020075); DAT II Theory of Operation, Metrologic Ex. 24, p. 4, item 3.) The decoders (also called “decode microprocessors” or “decode processors”) can access the 13-bit binary numbers or count data (which are stored in RAM buffers) generated by the counters, and then the decoders “extract patterns from the counts, primarily by computing ratios of the numbers.” (DAT II Theory of Operations, Metrologic Ex. 24, p. 3.) Each decoder “processes counts into decoded or partially decoded bar code label information.” (*Id.* at 17.) Because the decode processors are microprocessors, they are programmable. Decoded symbol data is transmitted to a host device, e.g., a computer or controller, through a data output port.

C. PSC's Motion for Partial Summary Judgment of Noninfringement of the [852 Patent](#)

*5 Plaintiff Metrologic's [852 patent](#) was filed on June 7, 1995, and issued on June 10, 1997. The patent claims priority as a continuation of [U.S. Patent No. 5,216,232](#), which was filed on September 10, 1990. The [852 Patent](#) is directed to a bar code scanner that sits above a counter and projects a narrow, dense pattern of light, the cross-section of which is patterned. The scanner is designed to read the bar code of objects placed within this dense pattern, regardless of its orientation. This is achieved by projecting many lines

of laser light at different angles in front of the scanner. The ability to scan bar codes no matter what angle they face the scanner is beneficial because it allows a clerk at a high-volume check-out counter to scan items quickly, irrespective of their orientation. In addition, counter space, particularly at smaller and lower-volume retail establishments, is preserved by the scanner's placement above the counter. Although placement above the counter had previously caused scanners to inadvertently read bar codes of items located nearby, an additional benefit with this device is that items placed nearby are not scanned, due to the narrowness of the laser light. Thus, Metrologic's [852 patent](#) discloses and claims an optical design capable of generating a scan pattern which is rich in scan lines and which has a scan pattern of narrow volume.

II. DISCUSSION

A. Legal Standards

*5 An infringement analysis is a two-step process. The first step is for the Court, as a matter of law, to construe the disputed claim terms. The second step is to compare the construed claims to the accused device to determine, as an issue of fact, whether all of the claim limitations are present in the accused device, either literally or by substantial equivalent. [Karlin Tech., Inc. v. Surgical Dynamics, Inc.](#), 177 F.3d 968, 971 (Fed.Cir.1999). This Court has already completed the first step of the process, *see Markman Decision*, and now undertakes the second in the context of summary judgment review.

*6 A patent claim is infringed if every claim limitation finds correspondence in the accused device—either literally or by substantial equivalents. [Warner-Jenkinson Co. v. Hilton Davis Chem. Co.](#), 520 U.S. 17, 20 (1997). In determining literal infringement of claims written in means-plus-function language as provided for by 35 U.S.C. § 112, ¶ 6, “the relevant structure in the accused device [must] perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the [patent] specification.” [Odetics, Inc. v. Storage Technology Corp.](#), 185 F.3d 1259, 1266-67 (Fed.Cir.1999). Equivalence of structure is found when “the differences between the structure in the ac-

cused device and *any* disclosed in the specification are insubstantial.” [Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.](#), 145 F.3d 1303, 1309 (Fed.Cir.1998)(emphasis added). The test for insubstantial differences is whether “the assertedly equivalent structure performs the claimed function in substantially the same way to achieve substantially the same result as the corresponding structure described in the specification.” [Odetics](#), 185 F.3d at 1267.

*6 Summary judgment shall be granted when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. [Fed.R.Civ.P. 56\(c\)](#); [Karlin Tech.](#), 177 F.3d at 970. Summary judgment is proper in patent infringement cases, when “no reasonable jury could determine that every limitation recited in the properly construed claim ... is not found in the accused device.” [Karlin Tech.](#), 177 F.3d at 974; [SDS USA, Inc. v. Ken Specialties, Inc.](#), 122 F.Supp.2d 533, 536-37 (D.N.J.2000). Moreover, [Rule 56\(e\)](#) provides that judgment “shall be entered,” unless the nonmoving party offers specific facts contradicting the facts averred by the movant, which indicate that there is a genuine issue for trial. *See Lujan v. Nat'l Wildlife Federation*, 497 U.S. 871, 888 (1990). If the evidence of the nonmoving party is “merely colorable or is not significantly probative, summary judgment may be granted.” [Anderson v. Liberty Lobby, Inc.](#), 477 U.S. 242, 249-50 (1986) (citations omitted). Summary judgment of infringement is proper after a court has conducted a *Markman* hearing and construed the claims. *See, e.g., SDS USA, Inc.*, 122 F.Supp.2d at 536.

B. Metrologic's Motion on the [342 Patent](#)

*6 As this Court declined to construe limitation 8 as an affirmative limitation, the parties are now only contesting the application of Limitations 6, 7, and 9 of the [342 patent](#) against PSC's Magellan Devices.

1. Claims 8 & 10, Limitation 6-“means for generating a plurality of predetermined frequencies”

*6 Limitation 6 recites a “means for generating a plurality of predetermined frequencies.” In its *Markman* Decision, this Court construed the function of

the limitation as:

**6 generat[ing] a plurality of predetermined frequencies, predetermined meaning that the division of the clock pulse frequency by two is a constant, fixed process which allows the frequency to always constitute half of its original number.* “Predetermined” does not mean that the frequencies must be determined in advance, or that the frequency must be fixed conclusively or authoritatively beforehand.

**7 Markman Decision at *32 (emphasis in original). This Court construed the corresponding structure of the means as: *7 Clock Input 12, which is either the Crystal Oscillator 13 or other External Clock 15, and the Clock Circuitry Divider 14. That is, the clock input 12 consists of a 40 MHz crystal oscillator or an equivalent external clock.*

**7 Id.* (emphasis in original).

**7 This Court construed Limitation 6 to be a means-plus-function element. “To determine whether a claim limitation is met literally, where expressed as a means for performing a stated function, the court must compare the accused structure with the disclosed structure, and must find equivalent structure as well as identity of claimed function for that structure.” Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 934 (Fed.Cir.1987)(en banc)(emphasis in original). Having identified the corresponding structure of the recited means, the next question is whether the structure of the accused device is equivalent to Metrologic's patented structure. “[S]ection 112, paragraph 6, rules out the possibility that any and every means which performs the function specified in the claim literally satisfies that limitation.” Pennwalt Corp., 833 F.2d at 934. Rather, the proper test is whether the differences between the structure in the accused device and any disclosed in the specification are insubstantial. See Chiuminatta Concrete Concepts, Inc., 145 F.3d at 1309.*

**7 The DAT II chip in PSC's devices generates a fundamental clock, CLK (equivalent to CLOCK0). CLOCK0 is successively divided down into 16 other clocks, CLOCK1-CLOCK16, ranging from 40 MHz to 610 Hz. These 16 frequencies are “a plurality of predetermined frequencies.” These are the same fre-*

quencies that are disclosed in the 342 patent (see 342 patent, 9:33-68.) PSC's expert, Roger Palmer, confirmed this division operation in his deposition. (See Palmer Dep., Metrologic Ex. 21, pp. 111-13). Thus, the function of the accused devices appears identical to the function disclosed in the patent's specification. Having determined identical identity of claimed function, the Court must additionally determine whether the structure performing that function is equivalent.

**7 PSC argues that the Magellan scanners (and some models of VS1200 and HS1250 scanners) use a ring oscillator, not the crystal oscillator included as an example of a clock input in the 342 patent, thereby precluding a finding of literal infringement. Notably, though, some of PSC's products, namely a percentage of the VS1200 and HS1250 models, use crystal oscillators. However, even if the accused devices cannot be held to literally infringe the 342 patent, those devices certainly infringe under the doctrine of equivalents, as now explained.*

**7 In the PSC devices, the DAT II chip has a clock input circuit configured to use an external crystal oscillator, an external oscillator module, or an external ring oscillator to generate the fundamental reference frequency CLK. The VS1200 and HS1250 scanners use an external crystal oscillator for generating the fundamental clock frequency, CLK. (See VS1200 schematic, Metrologic Ex. 7, p. 2 (PSC0019728), grid B7; HS1250 schematic, Metrologic Ex. 8, p. 2 (PSC0019784), grid B7.) The Magellan products (and, according to PSC, some VS1200 and HS1250 scanners) do not use the external crystal oscillator, but instead use the ring oscillator external to the clock input circuit. (See Magellan schematic, Metrologic Ex. 6, p. 5 (PSC0014699)(XTAL1-IN is grounded and XTAL2 is not connected); DAT II Internal Oscillator Diag., Metrologic Ex. 23, p. 13 (PSC0020086), grid D3.)*

**8 The external crystal oscillator and external ring oscillator are external inputs to the DAT II chip's clock input circuit, just as the external crystal oscillator 13 and external clock 15 are external inputs to the 342 patent's clock input 12. The external ring oscillator is an external clock 15. (Compare DAT II Internal Oscillator Diagram, Metrologic Ex. 23, p. 13*

(PSC0020086), grid D3 and its external inputs with [342 patent](#), Figs. 1, 2, and 4A, clock input 12 and its external inputs.)

*8 In addition, all of the Magellan Devices contain the DAT II chip, which includes a series of dividers that successively divide down the clock source so as to generate a plurality of predetermined frequencies. Metrologic contends that this is the identical function as called for by the claim as required by Section 112, ¶ 6, law. See [Odetics, 185 F.3d at 1267](#). As noted above, the predetermined frequencies generated by the DAT II chip include 40 MHz, 20 MHz, 10 MHz, 5 MHz, ..., 78 kHz, 39 kHz, ..., 4.875 kHz, and 2.44 kHz, the same ones described in the [342 patent](#).

*8 PSC contends that the Magellan scanners (and some models of VS1200 and HS1250 scanners) use a ring oscillator, which PSC claims is not equivalent to the crystal oscillator included as an example of a clock input in the [342 patent](#). This Court, however, in its *Markman* Decision, concluded that the term “predetermined” means the division of the clock pulse frequency is a fixed process and does not require “that the frequency must be fixed conclusively or authoritatively beforehand.” *Markman* Decision at *32. Thus, for purposes of equivalence, a ring oscillator functions in the same way as a crystal oscillator.

*8 PSC further argues that whether the ring oscillator in the accused devices is equivalent to the crystal oscillator is an issue of fact, precluding summary judgment. However, based on the Court's claim construction, the record demonstrates no genuine issue of material fact to be in dispute. PSC's own documents show that for decoding purposes, the two oscillators are equivalent:

*8 The exact accuracy and stability of this clock is not critical as long as it does not exceed the operating frequency of the rest of the design, 48 MHz, and is relatively constant over the length of the label being scanned.

*8 (DAT II Theory of Operation, Metrologic Ex. 24, p. 11.) A ring oscillator provides a frequency to the clock input circuit to generate the fundamental CLK operating frequency. This CLK operating frequency is stable over the millisecond or so it takes to scan a

bar code making the ring oscillator equivalent to the crystal oscillator described in the [342 patent](#) that generates that fundamental operating frequency. Moreover, PSC's own expert, Roger Palmer, confirmed the equivalence between the crystal oscillator and the ring oscillator.*8 Q: When you answered my previous question that it wouldn't have made a difference for scanning a particular bar code at a particular time whether you used a crystal oscillator or a ring oscillator, why would there be no difference?

*9 A: Because the decoding process is looking at relative counts between bars and spaces. If the counts were differing in all respects, by 10 or 20 percent in one case versus another, that would not have made a major difference in decodability.

*9 (Palmer Dep., Metrologic Ex. 21, at 109:6-17.)

*9 Finally, the fact that the DAT II chip is designed to use either a ring oscillator or a crystal oscillator supports Metrologic's argument of equivalence. Some PSC products use a crystal oscillator (the VS1200 and HS1250) and some use a ring oscillator (Magellan). PSC argues, however, that interchangeability is not sufficient to establish equivalence, citing [Chiuminatta, 145 F.3d at 1309](#). There, the Federal Circuit recognized that interchangeability is not “dispositive,” but stated that “known interchangeability” is an “important factor” in finding equivalence, especially if “those of ordinary skill in the art recognize[] the interchangeability” of the claimed structure with the accused element. [Id. at 1309-10.](#)

*9 In addition to the fact that PSC has acknowledged in its design of the DAT II chip that the ring oscillator and the crystal oscillator are interchangeable, this Court, with its claim construction, has recognized the equivalence. See [Chiuminatta, 145 F.3d at 1309](#) (two structures are equivalent because the differences between them are insubstantial in the context of the claim construction propounded by the Court). If the function of the clock input in the [342 patent](#) is to produce a fundamental frequency that can be used to generate a plurality of subfrequencies, or, in the language of the claim, “predetermined” frequencies, then the ring oscillator is equivalent to the crystal oscillator. This Court interpreted “predetermined” to mean a set of frequencies having a known relation

with one another, such as being successively divided down by two from a fundamental frequency. See *Markman* Decision at *32. With such an interpretation, the ring oscillator “performs the claimed function” of generating a plurality of predetermined frequencies “in substantially the same way to achieve substantially the same result as the” crystal oscillator, and is therefore “equivalent” under Section 112, ¶ 6. See *Odetics*, 185 F.3d at 1267. Thus, with respect to Limitation 6, summary judgment shall be granted to Metrologic.

2. Claims 8 & 10, Limitation 7-“means for measuring the time duration of the digital input signals using one of said plurality of frequencies and producing digital data representing said measured time durations”

*9 Limitation 7 recites “means for measuring the time duration of each of said first and second levels of said digital input signals using one of said plurality of frequencies and producing digital data representing said measured time durations.” In its *Markman* Decision, this Court construed the functions of this limitation

*9 to use a frequency from one of the predetermined frequencies, thereby selecting a frequency, according to the scanner type that is inputted into the structure and to process the output signals from the input means so as to produce digital data representing measured time durations, allowing counting of the clock signals by further means.

*10 *Id.* at *35 (emphasis in original). The Court construed the corresponding structure as: *10 the clock mux 16, the transition detector 24, sequencing means 28, and digitizer counting means 30.

*10 *Id.* (emphasis in original).

*10 The construed functions are (1) selecting a frequency from one of the predetermined frequencies, (2) measuring the time durations using the selected frequency, and (3) producing digital time duration data. PSC's devices perform these functions by selecting one of the predetermined frequencies for each “scanner type.” Each of these frequencies allows the counting means to count the time durations of the

high and low levels received from the bar code from each scanner type. These time durations are indicative of the relative widths of the bars and spaces in the bar code symbols. The DAT II chip

*10 processes the signal [from the scanner by] convert[ing it] into a series of 13 bit binary numbers by counting the number of cycles, of a fixed time base clock, between transitions of the signal (bar code edges).

*10 (DAT II Theory of Operation, Metrologic Ex. 24, p. 3.)

*10 The structure for performing this function includes a clock mux, a transition detector, sequencing means, and digitizer counting means. A clock mux takes several different clock inputs and outputs one of them according to a control command. The control command may request the fastest clock or the slowest clock or a clock with a specific frequency. That DAT II chip includes a clock mux to select frequencies. (See DAT II Clock Generation Diag., Metrologic Ex. 23, p. 14, col. 4.)

*10 “The front end state controller detects bar/space transitions and generates 13 bit numbers which are the count of ... clock cycles between transitions.” (DAT II Theory of Operations, Metrologic Ex. 24, p. 7.) This is the transition detector. According to PSC's expert, Roger Palmer, the DAT II Front End diagram, Metrologic Ex. 23, p. 6 (PSC0020080) includes a sequencer, “which provide[s] a similar functionality to that in item 28 in the [027 patent](#).” Item 28 in the [027 patent](#) and [342 patent](#) is the “sequencing means.” The “13 bit parallel load ripple counter” (*id.* at 8) is the digitizer counting means.

*10 PSC's only argument regarding this limitation involved its proper construction. See *Markman* Decision at *34 (“The parties' dispute with respect to the corresponding structure for this function revolves around whether the clock mux 16 is included as part of the structure.”) Now that the Court has construed the limitation in favor of Metrologic, the record does not reflect a factual dispute regarding infringement and summary judgment is properly entered in favor of Metrologic.

3. *Claims 8 & 10, Limitation 9-“decoder programmable for decoding a second type of bar code”*

*10 Limitation 9 recites “wherein said device comprises a second decoder for receiving said processed signals, said second decoder being programmable for decoding a second type of bar code or other digital code.” This limitation is not written in means-plus-function format. The Court construed Limitation 9 as follows:

*11 *the decoder must be programmable to decode a wide variety of codes and a symbology, and refers to a programmable processor.* This decoder does not refer to the fixed program decoder, which is inflexible. The use of the word “second” does not require that a first decoder be included within the patent. Although the element is not a means-plus-function element, the corresponding structure is a programmable processor, equivalent to the programmable processor 26.

*11 *Id. at *39* (emphasis in original).

*11 Limitation 9 requires a programmable decoder/processor. The Magellan Devices include this element. Each of PSC's devices incorporates at least one DAT II chip, and each DAT II chip has two decoders, either one of which satisfies this limitation. (See DAT II Theory of Operation, Metrologic Ex. 24, p. 4 (“The DAT II has two decode processors that can access the interval count data. This enables two different bar code types to be decoded in real time by one DAT II.”).)

*11 PSC's only arguments involved the proper construction of this limitation and thus, the record standing as it does, warrants the granting of summary judgment in favor of Metrologic.

4. *Limitation 10-“means for providing a reference input frequency and plural frequency dividing means for successively dividing said reference input frequency”*

*11 Limitation 10 recites “wherein said means for generating a plurality of frequencies comprises means for providing a reference input frequency and plural frequency dividing means for successively dividing said reference input frequency.” Metrologic's

construction of this claim has not been contested by PSC, and thus the Court did not construe it. This is a means-plus-function claim element that further describes the means for generating a plurality of frequencies in Limitation 6.

*11 Limitation 10 includes two parts: the first part is “means for providing a reference input frequency,” and the second part is “plural frequency dividing means for successively dividing said reference input frequency.” The function of the first means is to provide a reference frequency, and the function of the second means is to successively divide the reference frequency. The reference frequency is the frequency generated by the clock input (e.g., the crystal oscillator in the [342 patent](#)). Dividing the reference frequency means generating subfrequencies in a predetermined relationship to the reference frequency, such as dividing by factors of 2.

*11 The structure of Limitation 6 was construed by the Court as “*the Clock Input 12, which is either the Crystal Oscillator 13 or other External Clock 15, and the Clock Circuitry Divider 14.*” *Markman* Decision at *32 (emphasis in original). The structure of Limitation 10 is therefore parsed into two parts corresponding respectively to each of the functions in Limitation 10:(1) “the Clock Input 12, which is either the Crystal Oscillator 13 or other External Clock 15” and (2) “the Clock Circuitry Divider 14.”

*12 Metrologic contends that Limitation 10 is merely a more specific rendering of Limitation 6, where the functions and structures of the two parts were construed by the Court. The DAT II chip generates a fundamental reference clock, CLK (equivalent to CLOCK0). This fundamental clock is a reference input frequency. CLK is generated using an external crystal oscillator, an external oscillator module, or an external ring oscillator. The DAT II chip's external ring oscillator is an external input to the clock input circuit on the DAT II chip schematic, and it corresponds to external clock 15 which is an external input to clock input 12 of the [342 patent](#).

*12 CLK (or its derivative, CLOCK0) is successively divided down into 16 other clocks, CLOCK1-CLOCK 16, ranging from 40 MHz to 610

Hz. The DAT II chip includes a series of dividers that successively divide down the clock source. This is the identical function as called for by Limitation 10 and Metrologic is therefore entitled to summary judgment.

C. Metrologic's Motion on the [027 Patent](#)

***12** Metrologic also argues that summary judgment should be granted in its favor with respect to the [027 patent](#), contending that PSC's accused devices meet each and every element of Claims 1, 6, and 28 of the [027 Patent](#).

1. Claims 1 & 6, Limitation 5-“common timing means”

***12** Limitation 5 recites:

***12** common timing means for measuring the time duration of the first and second signal levels between the detected signal level transitions in the supplied digital data signal, and producing digital data related to the time duration of the first and second signal levels in the supplied digital data signal.

***12** In its *Markman* Decision, this Court construed the function of this limitation as “*measuring the time durations of the digital data signals using the frequency appropriate for the scanner type detected.*” *Id.* at *40 (emphasis in original). The Court construed the corresponding structure as: ***12** the clock input 12 (either from a crystal oscillator 13 or other external clock 15), the clock divider circuitry 14, the clock mux 16, and the counters 50 and 52.

***12** *Id.* (emphasis in original).

***12** The construed functions thus are (1) measuring the time durations of the digital data signals using the frequency appropriate for the scanner type detected and (2) producing digital time duration data. The Magellan Devices perform the recited function of using a clock input that is either a crystal oscillator or another external clock, a clock circuitry divider, clock mux, and counters (or their equivalents).

***12** Metrologic contends that infringement of this limitation is extremely similar to infringement of Limitations 6 and 7 of the [342 patent](#). The Magellan

Devices perform these functions by generating a fundamental clock reference frequency, CLK, and generating a plurality of subfrequencies (CLOCK0-CLOCK16) related to the fundamental frequency. One of the subfrequencies is selected for each “scanner type” and each of these frequencies allows the counting means to count the time durations of the high and low levels received from the bar code for each scanner type. These time durations are indicative of the relative widths of the bars and spaces in the bar code symbols. The DAT II chip then produces digital count data related to the time duration of the high and low signals coming from the scanners.

***13** The structures for performing these functions include a clock input, clock divider circuitry, clock multiplexer, and counters. The DAT II chip has a clock input circuit to generate the fundamental frequency. This clock input circuit has inputs from an external crystal oscillator, an external oscillator module, or an external ring oscillator. The DAT II chip's external ring oscillator used with the Magellan scanners and some of the VS1200 and HS1250 scanners is an external input to the clock input circuit on the DAT II chip schematic, and it corresponds to external clock 15 which is an external input to clock input 12 of the [027 patent](#). The DAT II chip has clock divider circuitry as well made up of a bank of flip-flops to divide the fundamental frequency into subfrequencies. Metrologic contends that this is the identical function as called for by the claim and § 112, ¶ 6. See [Odetics, 185 F.3d at 1267](#).

***13** In addition, the DAT II chip has a clock mux that takes as inputs the subfrequencies and outputs one of them according to a control command. The control command may request the fastest clock or the slowest clock or a clock with a specific frequency. The DAT II chip has a counter realized by the “13 bit parallel load ripple counter” depicted in DAT II Front End Diagram, Metrologic Ex. 23, p. 8 (PSC0020080).

***13** PSC again argues that the ring oscillator frequency it uses is not as exact as that of a crystal oscillator and therefore “the count values measured in the bar/space counters in [devices using a ring oscillator] do not correspond to time durations.” (PSC's Opp. Brief at 25.) Instead, PSC argues, its devices process

“the ratios of neighboring bar/space widths ... regardless of the actual amount of time of any given bar or space” and do not know the “amount of time that corresponds to any given count” and therefore do not perform the function of measuring time durations. (*Id.*)

*13 In its *Markman* Decision, this Court stated that “there is nothing in the claim language itself which requires that the actual time corresponding to bar and space widths be known.” *Id.* at *40. Thus, even if PSC’s devices do not know the “amount of time that corresponds to any given count,” they do nonetheless count pulses and bar and space widths, thereby performing the recited function and infringing this limitation. For this reason, Metrologic’s motion for summary judgment will be granted.

2. Claims 1 & 6, Limitation 7-“common data processing means”

*13 Limitation 7 recites:

*13 common data processing means operably associated with said common timing means and programmed for processing said digital data from the supplied digital data signal, so as to produce decoded symbol data representative of the bar code symbol being scanned by said scanning device producing the supplied digital signal.

*13 This Court construed the function of this limitation as: *13 *process[ing] digital data from the supplied data signal to produce decoded symbol data representative of the bar code symbol being scanned by said scanning device producing the supplied digital signal.*

*14 *Markman* Decision at *43 (emphasis in original). Neither party disputed the interpretation of this function. *Id.* at *41. The Court thus construed the corresponding structure as: *14 *consisting of either the programmable processor 26 or the fixed program decoder 20.* There is no requirement that the structure must consist of both the programmable processor 26 and the fixed program decoder 20.

*14 *Id.* (emphasis in original). Thus, Limitation 7 requires a programmable processor *or* a fixed program decoder.

*14 PSC argues that summary judgment must be denied because Metrologic has not established that the common data processing means in the [027 patent](#) is present in the accused devices. To determine whether the accused devices infringe, it must be determined whether each and every element of the asserted claim is present in the accused device. If even a single claim element is not present, the claim is not infringed. [Telemac Cellular Corp. v. Topp Telecom, Inc.](#), 247 F.3d 1316, 1330 (Fed.Cir.2001).

*14 PSC relies primarily upon the second paragraph of [35 U.S.C. § 112](#) for purposes of opposing Metrologic’s motion for summary judgment. [35 U.S.C. § 112, ¶ 2](#) provides: “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” PSC, citing to [Tehrani v. Hamilton Medical, Inc.](#), 331 F.3d 1355 (Fed.Cir.2003) and [WMS Gaming Inc. v. International Game Tech.](#), 184 F.3d 1339 (Fed.Cir.1999), argues that the structure of a microprocessor in a means-plus-function element includes the algorithm used to implement the recited function. Moreover, PSC contends that under Federal Circuit precedent, § 112 ¶ 2 requires disclosure of structure in the specification, and does not permit reliance on knowledge of persons skilled in the relevant arts when no structure is disclosed. See [Atmel Corp. v. Information Storage Devices Inc.](#), 198 F.3d 1374, 1382 (Fed.Cir.1999). PSC concludes that because the [027 patent](#) does not disclose the relevant algorithm or reference known algorithms, its accused devices cannot infringe. In other words, in view of the requirements for reciting structure in the specification, and in view of the fact that the algorithm or program for microprocessor-based devices is part of the structure, failure to disclose the algorithm or program implemented in such devices is a failure to disclose the structure that is required by § 112 ¶¶ 2 and 6.

*14 The Federal Circuit has found, however, that “there would be no need for a disclosure of the specific program code if ... one skilled in the art would know the kind of program to use.” [Medical Instrumentation and Diagnostics Corp. v. Elekta AB](#), 344 F.3d 1205, 1214 (Fed.Cir.2003), *cert. denied*, [124 S.Ct. 1715](#) (2004). The cases cited by PSC specific-

ally held that the corresponding structure for the claim limitations at issue necessarily included the algorithms. That is not the case here. As the [027 patent](#) discloses, the “programmable processor decoder can be programmed to decode a wide variety of codes,” including UPC and EAN codes. ([027 patent](#), 2:36-49.) The programmable processor 26 is described in the illustrative embodiment as an 8-bit microprocessor with a first-in, first-out (FIFO) memory having the same characteristic as known programmable processor decoders. (*Id.*, 4:2-8 and 20:2-4.)

*15 Moreover, both cases cited by PSC are inapposite to the present situation and thus distinguishable. In *WMS Gaming*, the algorithm at issue was not only unknown to one of ordinary skill in the art, but was also the only point of novelty in the patent at issue. In the instant case, however, the algorithms used by the programmable processor in the [027 patent](#) are well known, not novel, and “in prevalent use.” (See [027 patent](#), 2:30). Indeed, PSC's own expert, Roger Palmer conceded as much:

*15 Q: Would one of ordinary skill in the art understand what was involved in writing software for a programmable processor to be able to decode a symbology without any further instruction in the patent?

*15 A: Yes.

*15 (Palmer Dep., Metrologic Ex. 21, 155:24 to 156:5; see also Dec. of Roger Palmer in Support of PSC's Opposition to Metrologic's Motion for Summary Judgment of Infringement of U.S. Patent Nos. 5,081,342 & 5,343,027 (May 30, 2002), ¶¶ 97-101.)

*15 In *Tehrani*, the invention at issue was an apparatus which automatically controlled a respirator and used an algorithm to calculate breath frequency and tidal volume based on five variables or data inputs. The parties there agreed that the structure corresponding to the processing function included a microprocessor and an algorithm. The algorithm in *Tehrani* was not known to one of ordinary skill in the art and was instead the point of novelty. [Tehrani](#), 331 F.3d at 1360 (noting that the inventor so advised the Patent and Trademark Office during prosecution, “The novelty of the present invention lies in its use of all of the data recited in claims 1 and 16 in determining the ventilation and breathing frequency for a patient.”).

*15 As Metrologic points out, here neither the programmable decoder of the [027 patent](#) nor the decoding algorithm is the precise point of novelty. The invention of the [027 patent](#) is not a bar code decoder per se, but rather a bar code reader having the ability to handle inputs from multiple bar code scanners. The bar codes decoded by the [027 patent](#) decoder are standard bar code symbologies and the decoding algorithms are standardized in the industry and thus very well known.

*15 Thus, no genuine issue of material fact appears to exist as to structural equivalence between programmable processor 26 and the DAT II chip's programmable decoder, as they seemingly perform the same function of processing and decoding data with identical structure, a programmable processor. Summary judgment is therefore appropriate on Limitation 7 in favor of Metrologic.

D. PSC's Motion on the [852 Patent](#)

*15 PSC moves for summary judgment, alleging that its Duet and VS800 bar code scanners do not infringe Metrologic's [852 patent](#). PSC contends that under this Court's construction of the first of the asserted four claim limitations—the highly collimated projected scanning pattern—PSC is entitled to summary judgment.

1. Claim Construction of the “Highly Collimated Scanning Pattern” Limitation and Alleged Infringement

*16 This Court stated in its *Markman* Decision:

*16 [T]his Court construes the claim language “highly collimated projected scanning pattern” as a scanning pattern of scan lines that is columnar in nature, or as columnar as possible, given practicable design constraints. The Court does not construe “highly collimated” as referring to the richness of the scan pattern into which bar coded items can be presented for reading irrespective of orientation. Rather, “highly collimated” refers to the columnar nature of the laser light projection containing the scan pattern.

*16 *Id.* at *22 (emphasis in original). The Court warned further that “plaintiff is estopped from assert-

ing that the claim language 'highly collimated' refers to anything other than 'roughly columnar,' opposite from widely divergent." *Id.* at *20.

*16 PSC argues that the accused devices do not have a highly collimated scanning pattern, thereby not infringing the [852 patent](#), and points to four separate pieces of evidence to establish that the scanning patterns of its devices are not highly collimated. If even a single claim element is not present in the accused device, the claim is not infringed. [Telemac Cellular Corp. v. Topp Telecom, Inc.](#), 247 F.3d 1316, 1330 (Fed.Cir.2001).

*16 First, PSC finds support for its position in the photos attached to its expert, Roger Palmer's Declaration. Exhibit J to Roger Palmer's Declaration shows the projected scan pattern of the Duet at 0, 2, 4, 6, and 8 inches from the scanner window. Also, Exhibit K shows the projected scan pattern of the VS800 at 0, 2, 4, 6, and 8 inches from the scanner window. Second, PSC asserts that Roger Palmer's expert declaration establishes that the scanning patterns are not columnar in nature. In that Declaration, Mr. Palmer concluded, based on his observations of the scanning patterns, that the scanning patterns "are not columnar. To the contrary-they rapidly increase in size and drastically change in shape as the distance from the scanner window increases." (Palmer Decl. at ¶ 62.) Third, PSC argues that the scanning patterns were intentionally designed to be relatively wide and diverging to accommodate sweep scanning applications. (See Palmer Decl. at ¶ 72.) PSC contends that no evidence has been proffered in opposition to PSC's proof that the accused devices were designed to operate in sweep mode, where a wider scanning pattern is more desirable. It thus follows that the scan patterns of the accused devices are neither columnar in nature, nor as columnar as possible, given practicable design constraints. Finally, PSC asserts that the testimony of Mark Schmidt, Vice President of Metrologic, confirms that the scanning patterns are not columnar in nature. Mr. Schmidt testified that the scanning patterns had vertical lines that extended "quite far up" and "off to the sides." (Palmer Decl. at ¶ 69 and Exhibit O attached thereto.) Moreover, after examining a Duet at a trade show, Mr. Schmidt wrote a memorandum that described the scan pattern of the Duet as

"not highly collimated (not really narrow)." (Palmer Decl. at ¶ 65 and Exhibit L thereto.)

*17 Metrologic responds that Figure 1 of the 842 patent actually illustrates the scan pattern of the patented device. (See 842 Patent, Figure 1; 10/1/04 Oral Argument Tr. 39:3-5.) Figure 1 shows a scan pattern that is a frustrum shape, radiating out and producing a scan that is highly collimated. Metrologic contends that if Figure 1's scan pattern is compared with Palmer's photographed scanning patterns of the accused devices, the two are of a very similar shape. Moreover, Metrologic argues that the tests performed by Mr. Palmer are misleading in that there are a number of single lines that extend out, giving the impression that the scan pattern is not columnar, but rather is widely divergent. However, such an image does not indicate where, within the scan pattern, the barcode scanner is actually capable of reading the barcode that is placed before it. (10/1/04 Oral Argument Tr. 40:6-15.) Metrologic's expert, Dr. David Daut, performed tests similar to those of Mr. Palmer, but produced diagrams showing the scan pattern for the areas in which the barcode was actually readable. (See Decl. of David Daut, Ph.D., Metrologic Ex. 1; Metrologic Ex. 2.) These images, Metrologic contends, support its position that the accused devices' scan patterns are indeed columnar in nature.

*17 This conflicting evidence contained in the record as presently developed demonstrates that a question of fact indeed remains that is best resolved by a jury, rather than an issue which can be decided on a motion for summary judgment. While it is well established that "patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue," [Hockerson-Halberstadt, Inc. v. Avia Group Intern., Inc.](#), 55 U.S.P.Q.2d 1487, 1491 (Fed.Cir.2000), reasonable minds could conclude that the accused devices do indeed produce a scan pattern that is "columnar in nature, or as columnar as possible, given practicable design constraints." At the same time, reasonable minds could conclude the exact opposite. Thus, summary judgment must be denied.

E. PSC's Motion for Summary Judgment under [35](#)

U.S.C. § 287 on the 342 Patent

*17 Defendant PSC moves for summary judgment under 35 U.S.C. § 287, arguing that this statute provides a basis for eliminating damages for its infringement of the 342 patent between 1994 and June 2001. Notably, in footnote 1 of its Opposition Brief, Metrologic states that it is not contesting PSC's motion as to the patents-in-suit other than the 342 patent. Accordingly, the date of notice for the other patents-in-suit should be the date of the filing of the initial complaint and PSC's motion should be granted as to all patents-in-suit other than the 342 patent.

*17 Metrologic's 342 patent issued on January 14, 1992. Shortly thereafter, Metrologic began to mark the 342 patent number on a label that was affixed to the products. (Declaration of Dari Buchhofer at ¶ 3, Metrologic Ex. 2). From February 1992 continuously through December 1999, Metrologic affixed a label with the 342 patent on the Metrologic covered products. During this time period, the labels typically had no more than 2-3 patent numbers. (*Id.*)

*18 In December 1996, Metrologic entered into a license agreement with Symbol, the leading seller of bar code scanners for the United States retail market. (Declaration of Mark Schmidt at ¶ 2, Metrologic Ex. 3). Under this license agreement, both parties elected (or could elect) to take certain licenses to the other party's patents. Consequently, Metrologic ultimately became obligated to mark each of its products with approximately 45-50 Symbol patents depending on the product. Owing to the number of patents involved and the impracticality of placing all the Symbol patents on Metrologic's products, the agreement specified that Metrologic mark its products by placing "See Reference Manual for Patent Coverage" (or a substantially similar statement) on the product and list the patent numbers in the reference manual. (*See* Metrologic Ex. 17; Declaration of Nancy Smith at ¶ 2, Metrologic Ex. 4.)

*18 In December 1999, Metrologic adopted the marking approach set forth in the agreement with Symbol for its patents as well as the Symbol patents. Thus, Metrologic patent numbers were removed from the products and in place of the specific patent num-

bers, the product label contained the notice phrase, "See User's Guide for Patent Coverage." (Metrologic Ex. 8.)

*18 The 342 patent was added to this suit in June of 2001, and the first time Metrologic placed PSC on actual notice of this claim of infringement of the 342 patent was in a letter dated April 10, 2001, requesting leave to amend its Complaint. PSC contends that because Metrologic failed to mark substantially all its products consistently and continuously in compliance with § 287, Metrologic is barred from recovering damages for any acts of infringement of the 342 patent prior to April 10, 2001.

*18 Section 287 of the patent statute requires a patentee to give either constructive or actual notice of infringement before monetary damages for infringement can accrue. A patentee may give notice

*18 either by fixing [on the patented article] the word "patent" or the abbreviation "pat.", together with the number of the patent, or when, from the character of the article, this can not be done, by fixing to it, or to the package wherein one or more of them is contained, a label containing a like notice. In the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice.

*18 35 U.S.C. § 287.

*18 One way to satisfy § 287 is to provide actual notice of infringement to the infringer. Lans v. Digital Equipment Co., 252 F.3d 1320, 1326 (Fed Cir.2001); Amstead Indus. Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 185 (Fed.Cir.1993). The requirements as to what constitutes actual notice are strict: the patentee must provide the accused infringer with specific and actual notice that charges infringement of an identified patent by a specific accused product. Amstead Indus. Inc., 24 F.3d at 187. Any notice that does not identify the patent number and the accused product does not qualify as actual notice under § 287.

*19 The other way to satisfy § 287 is to provide "constructive notice" by complying with the strict

marking requirements set forth in the statute. However, a patentee does not comply with the marking requirements until it can show that it “consistently marked substantially all of its patented products, and it was no longer distributing unmarked products.” American Medical Systems, Inc. v. Medical Engineering Corp., 6 F.3d 1523, 1538 (Fed Cir.1993), cert. denied, 511 U.S. 1070 (1997).

*19 PSC argues that Metrologic did not comply with 35 U.S.C. § 287 in two separate ways, either one of which would be sufficient to bar damages. First, PSC argues that Metrologic's use of the “See User's Guide” marking does not satisfy the strict requirements of § 287. Second, PSC contends that Metrologic failed to mark the 342 patent on its MS7120 and MS6720 barcode scanners (“the unmarked products”), which are covered by at least claim 5 of the 342 patent.

1. Improper Marking: The User Guide

*19 PSC argues that Metrologic did not provide actual notice of infringement to PSC until April 10, 2001, at the time that it filed its amended complaint. (Hyun Decl. at ¶ 15.) Metrologic, however, contends that this is incorrect because its amended complaint “relates back” to the October 1999 filing date under Fed.R.Civ.P. 15(c). Rule 15(c) provides in pertinent part:

*19 An amendment of a pleading relates back to the date of the original pleading when ... (2) the claim or defense asserted in the amended pleading arose out of *conduct, transaction, or occurrence set forth* or attempted to be set forth in the original pleading.

*19 Fed.R.Civ.P. 15(c) (emphasis added). Rule 15(c) is most frequently applied to avoid the dismissal of claims on statute of limitation grounds, but has also been applied in patent cases with respect to the patent damages provisions of 35 U.S.C. § 286.^{FN4}

FN4. 35 U.S.C. § 286 is not a true statute of limitations, but instead serves to limit infringement damages to six years prior to the filing of the Complaint. See Standard Oil Co. v. Nippon Shokukai Kagaku Kogyo Co., 754 F.2d 345, 348 (Fed.Cir.1985). In patent

cases, the two most common relation back scenarios involve adding a related patent, see Applied Vision Inc. v. Optical Coating Lab., 1997 WL 601425 (N.D.Cal. Sept. 23, 1997); Hooker Chem. & Plastics Corp. v. Diamond Shamrock Corp., 87 F.R.D. 398, 503 (W.D.N.Y.1980), or adding a related party, see Aerotel, Ltd. v. Sprint Corp., 100 F.Supp.2d 189 (S.D.N.Y.2000); E.I. duPont de Nemours & Co. v. Phillips Petroleum Co., 621 F.Supp. 310 (D.Del.1985).

*19 The Federal Circuit has offered little, if any, guidance on the applicability of the relation back doctrine to patent infringement claims. District courts which have entertained the issue tend to find that infringement of one patent is not the same conduct or occurrence as infringement of another patent for the purposes of relation back, unless the claims with respect to the second patent are an integral part of the claims in the first action. See e.g., Taho Sierra Preservation Council v. Tahoe Regional Planning Agency, 808 F.Supp. 1474, 1482 (D.Nev.1992), *aff'd in part, rev'd in part on other grounds*, 34 F.3d 753 (9th Cir.1992), *amended by*, 42 F.3d 1306 (9th Cir.1994), cert. denied sub nom, 514 U.S. 1036 (1995); Illinois Tool Works, Inc. v. Foster Grant Co., Inc., 395 F.Supp. 234, 250-51 (N.D.Ill.1974), *aff'd*, 574 F.2d 1300 (7th Cir.1976).

*19 Many of the cases dealing with relation back focus on whether fair notice was given to the opposing party. However, the concept of fair notice under Fed.R.Civ.P. 15(c) is seemingly in direct tension with 35 U.S.C. § 287's strict requirements of actual notice, wherein the patentee must provide the accused infringer with specific and actual notice that charges infringement of an identified patent by a specific accused product. See Amstead, 24 F.3d at 187.

*20 Moreover, unlike in the cases cited by Metrologic in support of its position, namely Hooker Chem. & Plastics Corp. v. Diamond Shamrock Corp., 87 F.R.D. 398 (W.D.N.Y.1980), and Applied Vision, Inc. v. Optical Coating Lab., 1997 WL 601425 (N.D.Cal. Sept. 23, 1997), this is not a situation in which the amendment concerned the inclusion of a newly issued continuation patent of the patent-in-suit.

Instead, the [342 patent](#) is the parent application to the three later continuations-the [027 patent](#), the [717 patent](#), and the [049 patent](#)-all three of which were included in the original Complaint. While it may be said that a Complaint including allegations of infringement of the parent patent (the 342) would provide sufficient notice of infringement of the continuations (the 027, 717, and [049 patents](#)) as well, the reverse does not necessarily hold true. Thus, the Court finds that Metrologic's original Complaint did not afford the degree of notice contemplated by [35 U.S.C. § 287](#) and holds relation back to be inappropriate.

***20** Metrologic nevertheless contends that even if PSC lacked actual notice, it had constructive notice of its alleged infringement. Constructive notice is provided only when the patentee complies with the marking requirements set forth in [35 U.S.C. § 287](#). Moreover, marking of the patented article must comply strictly with this section to constitute notice to the world. See [T.C. Weygandt Co. v. Van Emden](#), 40 F.2d 938 (S.D.N.Y.1930). Here, it is undisputed that after December 1999, Metrologic stopped marking the number of the [342 patent](#) directly on its covered products (e.g., the 700 series scanners), and replaced the patent number with the phrase "See User's Guide for Patent Coverage." After December 1999, the [342 patent](#) number was listed only in the user's guide. (Hyun Decl. at ¶ 20.) The statutory language plainly recites, however, that marking is proper when it appears either on the product itself or on the package containing the product.

***20** Metrologic has admitted that, although it was physically possible to continue marking the patent number directly on its products after December 1999, it ceased doing so for pure reasons of marketing; aesthetics counseled against defacing the product with a multitude of patent numbers. (*Id.* at ¶ 22.) Despite the fact that Plaintiff failed to comply with the statute's preferred method of marking, Metrologic further failed in not adhering to the statute's alternative method of providing constructive notice: marking the package. Instead, Metrologic, through a label on its products' boxes, directed the public to the user guide for patent information.

***20** Metrologic argues that listing the patent numbers of its products in the related instruction manuals comports with the marking requirement imposed by [35 U.S.C. § 287](#). It is true that lower courts have refused to "severely scrutinize the character of the patented articles to determine whether the article was capable of being marked." See [Rutherford v. Trim-Tex, Inc.](#), 803 F.Supp. 158, 161 (N.D.Ill.1992). Indeed, a variety of product character considerations such as "defacement, custom of the trade, expense and other reasonable factors" are taken into account in determining whether alternative marking is permissible. *Id.* at 163 (citing [Wayne-Gossard Corp. v. Sondra Mfg., Inc.](#), 579 F.2d 41, 43 (3d Cir.1978)). Furthermore, Metrologic points to a sizable line of cases that stand for the proposition that placing patent numbers on the associated packaging complies with the marking statute even though it is physically possible to place the patent number on the article itself. See e.g., [Chicago Pneumatic Tool Co. v. Hughes Tool Co.](#), 192 F.2d 620, 626 (10th Cir.1951); [Saf-gard Prods., Inc. v. Serv. Parts, Inc.](#), 491 F.Supp. 996, 1010 (D.Ariz.1980); [Bergstrom v. Sears, Roebuck and Co.](#), 496 F.Supp. 476, 494 n. 9 (D.Minn.1980). Even the Supreme Court has not mandated that the article be marked if at all physically possible, but rather allows great discretion in the patentee to alternatively mark the package. [Sessions v. Romadka](#), 145 U.S. 29 (1892). This precedent, therefore, would seemingly excuse Metrologic for its failure to mark its patent numbers directly on the associated products, even though it was physically possible to do so.

***21** Those same cases, however, do not excuse Metrologic for its additional failure in providing patent numbers on the packages containing the product, as the language of the marking statute explicitly requires. Metrologic points to [Rexnord, Inc. v. Laitram Corp.](#), 6 U.S.P.Q.2d 1817, 1845 (E.D.Wisc.1988), to argue that packaging for purposes of [§ 287](#) is broadly construed to include any literature that is shipped with the device. In *Rexnord*, patented conveyor belt products were marked with some but not all applicable patent numbers. Included with each shipment, however, were installation instructions that listed all the patents-in-suit including one patent that was not

marked on the product. *Id.* at 1845. The court held there that listing the additional patent numbers in the installation guide shipped with the product constituted proper notice under [§ 287](#). *Id.*

*21 Unlike in *Rexnord*, however, here, Metrologic did not include a single patent number in either of the two ways that the statute delineates: either on the product itself or on that product's package. In *Rexnord*, at least one patent-in-suit number was included in the statutorily proscribed manner, with additional applicable patent numbers appearing in the installation guide.

*21 Courts have noted that a practical common sense approach must be taken when dealing with issues of compliance for the marking provisions of [§ 287](#), given that the purpose of the statute is to provide notice to the public of patent coverage. See [Rutherford](#), 803 F.Supp. at 163; [Shields-Jetco, Inc. v. Torti](#), 314 F.Supp. 1292 (D.R.I.1970), *aff'd*, 436 F.2d 1061 (1st Cir.1971). When, as here, the public finds no marking or writing on the product itself, the statute contemplates that the packaging is the next most logical place for effective notice of the existence of the patent. Metrologic failed to provide that notice on the package. All that was to be found on those packages were labels stating "See User's Guide for Patent Coverage." Although Metrologic argues that a user's guide is different in important ways from the fact sheets bearing the appropriate patent numbers that were distributed in [Calmar, Inc. v. Emson Research, Inc.](#), 850 F.Supp. 861 (C.D.Cal.1994), and is likely to follow the product through its life in a way that the packaging is not, marking the user's guide is yet another step removed from the product. And it is, in addition, a step beyond that which the explicit language of the marking statute contemplates.

*21 While this Court now finds that PSC is entitled to summary judgment and Metrologic is therefore precluded from collecting damages under the [342 patent](#) after December 1999 and prior to April 10, 2001, that portion of PSC's motion pertaining to damages from January 1994 to December 1999 must be denied. PSC does not dispute that Metrologic properly marked its products shortly after the issuance of the [342 patent](#) in 1992 or that Metrologic properly

marks its products continuously through December 1999. As PSC's first date of alleged infringement was in 1994, it is further undisputed that Metrologic was properly marking its products at the time PSC began to infringe. During this period of proper marking, would-be-infringers had constructive notice. Moreover, as the District of Colorado held in [Clancy Sys. Int'l., Inc. v. Symbol Techs., Inc.](#), 953 F.Supp. 1170 (D.Col.1997), a subsequent failure to mark does not insulate the infringer from damages for the period in which proper marking was in effect. *Id.* at [1174.FN5](#) "It would make no sense to hold that ... failure to mark eliminates, retroactively, years of appropriate proper notice." *Id.* Thus, that portion of PSC's motion with respect to damages from January 1994 to December 1999 must be denied.

[FN5](#). PSC argues that *Clancy* is inapplicable because it applies only to licensees, not patentees. It is not entirely clear that this is an accurate characterization, however. Indeed, both the court's actual language in *Clancy* as well as its underlying logic does not support PSC's argument on this point.

2. Failure to Mark the MS7120 and MS6720 Scanners

*22 Even if Metrologic had properly complied with the marking statute, PSC contends that it additionally does not satisfy the requirements of [35 U.S.C. § 287](#) by its failure to mark the MS7120 and MS 6720 scanners. PSC argues that these scanners are covered by claim 5 of the [342 patent](#) based on this Court's August 26, 2003 claim construction and, furthermore, contends that because Metrologic did not mark these scanners, Metrologic's damages should be limited. While Metrologic does not dispute that its MS6720 and MS7120 scanners meet the "means for generating" element of claim 5, Metrologic contends that these products do not meet the "means for measuring" element because they do not select a frequency.

*22 Claim 5 of the [342 patent](#) states as follows:

*22 [Preamble] A device for processing plural digital input signals, each said digital input signal having first and second levels, and being provided to said device by at least one input means, and each said di-

gital input signal representing a code symbol recorded on a medium read by said input means, the frequency of each said digital input signal from said input means being a function of the type of said input means and the resolution of said code symbol as recorded on said medium, said device comprising

***22** [Limitation 6] means for generating a plurality of predetermined frequencies and

***22** [Limitation 7] means for measuring the time duration of each of said first and second levels of said digital input signals using one of said plurality of frequencies and producing digital data representing said measured time durations for use by decoder means for decoding said code symbol.

***22** This Court ruled that the preamble of claim 5 is not a limitation and that the decoder means is not a separate element of claim 5. *Markman* Decision at *30, *38. Thus, claim 5 is left with only two limiting elements: the “means for generating” element and the “means for measuring” element. The frequency selection requirement, which Metrologic now asserts is not present in the MS6720 and MS7120, is part of the “means for measuring” element.

***22** This Court treated both of these elements as “means plus function” elements. For the means for generating element, this Court ruled that the function is “to generate a plurality of predetermined frequencies, predetermined meaning that the division of the clock pulse frequency by two is a constant, fixed process which allows the frequency to always constitute half its original number.” *Id.* at *30, *33. It also identified the structures corresponding to this function as: (a) the clock input 12, (b) either the crystal oscillator 13 or the external clock 15, and (c) the clock divider circuitry 14. *Id.* at *32.

***22** For the means for measuring element, this Court ruled that the function is

***22** to use a frequency from one of the predetermined frequencies, thereby selecting a frequency, according to the scanner type that is inputted into the structure and to process the output signals from the input means so as to produce digital data representing measured time durations, allowing counting of the clock signals by further means.

***23** *Id.* at *35. Moreover, this Court identified the structures corresponding to this function as: (a) the clock mux 16, (b) the transition detector 24, (c) the sequencing means 28, and (d) the digitizer counting means 30. *Id.* As claim 5 includes only the two limitations discussed above, that claim covers any device that includes both elements.

***23** Metrologic does not dispute that its MS6720 and MS7120 scanners meet the “means for generating” element, but does contend that these products do not meet the “means for measuring” element because they do not select a frequency. PSC asserts that since the unmarked products include a structure that is the same as or equivalent to the transition detector 24, the sequencing means 28, the digitizer counting means 30, and since the unmarked products also include a structure that is the same as or equivalent to the clock mux 16, the unmarked products satisfy the means for measuring element of claim 5 of the [342 patent](#). These products are therefore patented articles and invoke the marking requirements of [35 U.S.C. § 287](#).

***23** Metrologic argues that the MS6720 and MS7120 scanners do not perform the function of “selecting a frequency” from one of the predetermined frequencies and therefore do not meet all the limitations of claim 5. In particular, these products do not “use a frequency from one of the predetermined frequencies, thereby selecting a frequency” because the scanners operate at only a single frequency. The MS6720 and MS7120 are not designed or configured to handle digital input signals at different frequencies. (Wilz Decl., App., Ex. 5, ¶ 2.) The [342 patent](#), however, is directed toward a device that operates at more than one frequency, and is capable of selecting “one of a plurality of operating frequencies.” *Markman* Decision at *35 (emphasis in original). Metrologic’s basic argument therefore is that because the MS6720 and MS7120 scanners do not select a frequency from one of the predetermined frequencies, as a matter of law they cannot fall within the claims.

***23** PSC previously set forth proof at the *Markman* hearing that establishes that the unmarked products contain the transition detector 24, the sequencing means 28, and the digitizer counting means. The only

issue remaining for this Court therefore is whether the unmarked products also contain a structure that is identical or equivalent to the clock mux 16.

***23** Metrologic has admitted that it sold MS6720 and MS7120 scanners that included a 26282 ASIC. (Palmer's [§ 287](#) Decl. at ¶¶ 70, 76.) That ASIC contains a clock mux. PSC's expert, Roger Palmer, relied on DX110 to explain the operation of the 26282 ASIC as follows:

***23** In the 26282 ASIC, a plurality of predetermined frequencies are available (see Exhibit E at page M010798 and the Kolis 11/12/01 deposition, Exhibit F, [at p 460](#)). Those frequencies are binary divisions of the crystal frequency (see Exhibit E at page M010798). One of those frequencies is selected by writing to the four CLOCK CONTROL bits of register # 5. (See Exhibit E at page M010798).

24** (Palmer's [§ 287](#) Decl. at ¶ 66). DX110 describes the operation of the 26282 ASIC in more detail:24** Basically, the digitizer-sequencer section of the ASIC is responsible for converting the varying width intervals of a scanner's bilevel data signal into "time count" and "sign" information for decoding. The time duration of each count is dependent upon the ASIC's crystal frequency and the programming of the CLOCK CONTROL bits in register # 5. This "digitizing frequency" is selected to match the line speed of the scanner which produced the scan signal. Generally, the faster this line speed is, the higher the digitizing frequency required to resolve the scan signal.

24** (Palmer's [§ 287](#) Decl. Ex. E at M10797-98.) This passage thus discloses the function that this Court identified previously of "selecting a frequency, according to the scanner type that is inputted into the structure." DX110 continues, providing additional detail on selecting an appropriate frequency:24** Fifteen digitizing frequencies are available for selection by using the 4 CLOCK CONTROL bits of register # 5. The highest is the crystal frequency which is what the circuit defaults to when the CLOCK CONTROL bits are all zero. Programming the CLOCK CONTROL for 1-14 provides binary divisions of the crystal frequency while programming a 15 disables the digitizer by turning the clock off. The digitizing clock

is selected so that it produces valid interval time counts from the incoming scanner signal within a range of 8 to 255 or 8 to 2047 depending upon which count resolution is selected (8 or 11 bits).

***24** (Palmer's [§ 287](#) Decl. Ex. E at M10798).

***24** This language supports PSC's contention that the unmarked products "use a frequency from one of the predetermined frequencies" and "[select] a frequency, according to the scanner type that is inputted into the structure," as required by this Court's claim construction.

***24** The remaining functions of "process[ing] the output signals from the input means so as to produce digital data representing measured time durations, allowing counting of the clock signals by further means" are performed by the transition detector, the sequencing means, and the digitizer counting means for which PSC has previously submitted sufficient evidence to establish the presence of those structures in the unmarked products.

***24** Having established this, the Court must now determine whether the selecting structure in the unmarked products is the same as or equivalent to the clock mux 16 shown in Fig. 1 of the [342 patent](#). In [S3 Inc. v. Nvidia Corp., 259 F.3d 1364 \(Fed.Cir.2001\)](#), the Federal Circuit held that "a selector is of well known electronic structure that performs a common electronic function." *Id.* at 1371. There, the Federal Circuit effectively accepted testimony that equated a selector with a multiplexer as well. *Id.* at 1370-71. DX110's description of the 26282 establishes that it selects one of the available frequencies in the 26282 and therefore contains a selector. The New IEEE (Institute of Electrical and Electronics Engineers) Standard Dictionary of Electrical and Electronics Terms defines a multiplexer as a "device for selecting one of a number of inputs and switching its information to the output." (PSC's Supplemental Ex. A.) Thus, the 26282 ASIC contains a structure that is the same as or equivalent to the clock mux 16 in the [342 patent](#).

***25** Metrologic, in response, now attempts to argue that the MS6720 and MS7120 scanners do not per-

form the function of “selecting a frequency” from one of the predetermined frequencies and therefore do not meet all the limitations in claim 5. These products, according to Metrologic, do not “use a frequency from one of the predetermined frequencies, thereby selecting a frequency” because the scanners operate at only a single frequency. In so arguing, Metrologic apparently would read into the words “thereby selecting a frequency” in this Court’s August 26, 2003 Opinion the requirement of a device that operates at different frequencies at two different times depending upon what signals are input into the device. This Court came to a very different conclusion and Metrologic’s interpretation, which seemingly reads the programmable processor 26 into the claim, misconstrues this Court’s construction of the claim.

***25** The unmarked products therefore include all the elements of claim 5, thereby rendering them “patented articles” and invoking the marking requirements of [35 U.S.C. § 287](#). Despite the fact that these articles should have been marked pursuant to the marking statute, they were not. Therefore, PSC is entitled to summary judgment on this issue.

III. CONCLUSION

***25** For the reasons discussed above, summary judgment will be granted in favor of Metrologic on its motion regarding infringement of Claims 8 and 10 of the [342 patent](#) and Claims 1, 6 and 28 of the [027 patent](#). In addition, PSC’s motion for partial summary judgment of noninfringement and invalidity of the [852 patent](#) will be denied. Finally, PSC’s motion for summary judgment under [35 U.S.C. § 287](#) will be granted in part and denied in part. The accompanying Order will be entered.

ORDER

***25** This matter came before the Court upon Plaintiff Metrologic Instruments, Inc.’s motion for summary judgment of infringement of Claims 8 and 10 of [U.S. Patent No. 5,081,342 \(the 342 patent\)](#) and Claims 1, 6 and 28 of [U.S. Patent No. 5,343,027 \(the 027 patent\)](#), in addition to Defendant PSC, Inc.’s motion for partial summary judgment of noninfringement and invalidity of [U.S. Patent No. 5,637,852 \(the 852](#)

, and finally, Defendant PSC, Inc.’s motion for summary judgment under [35 U.S.C. § 287](#); and the Court having considered the papers submitted in support thereof and in opposition thereto; and the Court having heard oral argument on October 1, 2004; and for the reasons stated in the Opinion of today’s date; and for good cause shown;

***25** IT IS on this *13th* day of December, 2004 hereby

***25** ORDERED that Plaintiff Metrologic Instruments, Inc.’s motion for summary judgment of infringement of Claims 8 and 10 of the [342 patent](#) and Claims 1, 6 and 28 of the [027 patent](#) [Docket Item No. 84-1] shall be, and hereby is, **GRANTED**; and

***25** IT IS FURTHER ORDERED that Defendant PSC, Inc.’s motion for partial summary judgment of noninfringement and invalidity of the [852 patent](#) [Docket Item No. 77-1] shall be, and hereby is, **DENIED**; and

***26** IT IS FURTHER ORDERED that Defendant PSC, Inc.’s motion for summary judgment under [35 U.S.C. § 287](#) [Docket Item No. 63-1] shall be, and hereby is, **GRANTED IN PART AND DENIED IN PART**; and

***26** IT IS FURTHER ORDERED that with respect to Defendant PSC, Inc.’s motion for summary judgment under [35 U.S.C. § 287](#), Plaintiff Metrologic Instruments, Inc. is precluded from asserting damages under the [342 patent](#) after December 1999 and prior to April 10, 2001, but may do so for the period of alleged infringement occurring between January 1994 and December 1999.

D.N.J., 2004.

Metrologic Instruments, Inc. v. PSC, Inc.

Not Reported in F.Supp.2d, 2004 WL 2851955 (D.N.J.)

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- [2005 WL 1363280](#) (Trial Motion, Memorandum and Affidavit) PSC Inc.'s Reply Memorandum in Support of Its Motion for Reconsideration of the Court's Order Dated December 13, 2004 (Jan. 26, 2005)
- [2005 WL 1363282](#) (Trial Motion, Memorandum and Affidavit) Metrologic's Reply Memorandum in Further Support of its Motion for Reconsideration Regarding Limitation of Infringement Damages Under 35 U.S.C. | 287 (Jan. 26, 2005)
- [2005 WL 1363275](#) (Trial Motion, Memorandum and Affidavit) PSC Inc.'s Memorandum of Law in Opposition to Metrologic's Motion for Reconsideration of the Court's Order Dated December 13, 2004 (Jan. 14, 2005)
- [2005 WL 1363276](#) (Trial Motion, Memorandum and Affidavit) Metrologic's Memorandum in Response to Psc's Motion for Reconsideration of the Court's December 13, 2004 Opinion (Jan. 14, 2005)
- [2005 WL 3498877](#) (Trial Motion, Memorandum and Affidavit) Psc Inc.'s Memorandum of Law in Opposition to Metrologic's Motion for Reconsideration of the Court's Order Dated December 13, 2004 (Jan. 14, 2005)
- [2005 WL 3498878](#) (Trial Motion, Memorandum and Affidavit) Metrologic's Memorandum in Response to Psc's Motion for Reconsideration of the Court's December 13, 2004 Opinion (Jan. 14, 2005)
- [2004 WL 3374019](#) (Trial Motion, Memorandum and Affidavit) PSC'S Response to Plaintiff's Supplemental Statement of Facts Regarding Infringement of the '342 and '027 Patents (Sep. 14, 2004)
- [2004 WL 3374013](#) (Trial Motion, Memorandum and Affidavit) PSC'S Supplemental Memorandum in Opposition to Metrologic's Motion for Summary Judgment of Infringement of the "342 and "027 Patents (Aug. 30, 2004)
- [2004 WL 3374017](#) (Trial Motion, Memorandum and Affidavit) PSC's Supplemental Memorandum in Support of Its Motion for Partial Summary Judgment of Noninfringement of Patent No. 5,637,852 (Aug. 30, 2004)
- [2004 WL 3625094](#) (Trial Motion, Memorandum and Affidavit) Psc's Supplemental Memorandum in Opposition to Metrologic's Motion for Summary Judgment of Infringement of the ""342 and ""027 Patents (Aug. 30, 2004)

- [2004 WL 3625095](#) (Trial Motion, Memorandum and Affidavit) Psc's Supplemental Memorandum IN Support of its Motion for Partial Summary Judgment of Noninfringement of Patent No. 5,637,852 (Aug. 30, 2004)
- [2002 WL 32934492](#) (Trial Pleading) Answer to Second Amended Complaint and Counterclaim (Oct. 22, 2002)
- [2002 WL 32934491](#) (Trial Pleading) Second Amended Complaint (Oct. 11, 2002)
- [2001 WL 34841025](#) (Trial Pleading) Reply to Answer to First Amended Complaint and Counterclaim (Aug. 2, 2001)
- [2001 WL 34841024](#) (Trial Pleading) Answer to First Amended Complaint and Counterclaim (Jul. 13, 2001)
- [2001 WL 34841023](#) (Trial Pleading) First Amended Complaint (Jun. 26, 2001)
- [2000 WL 34565320](#) (Trial Pleading) Reply to Counterclaim (Jan. 18, 2000)
- [1999 WL 33975107](#) (Trial Pleading) Answer to Complaint and Counterclaim (Dec. 22, 1999)

END OF DOCUMENT